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AMIGA WORLD

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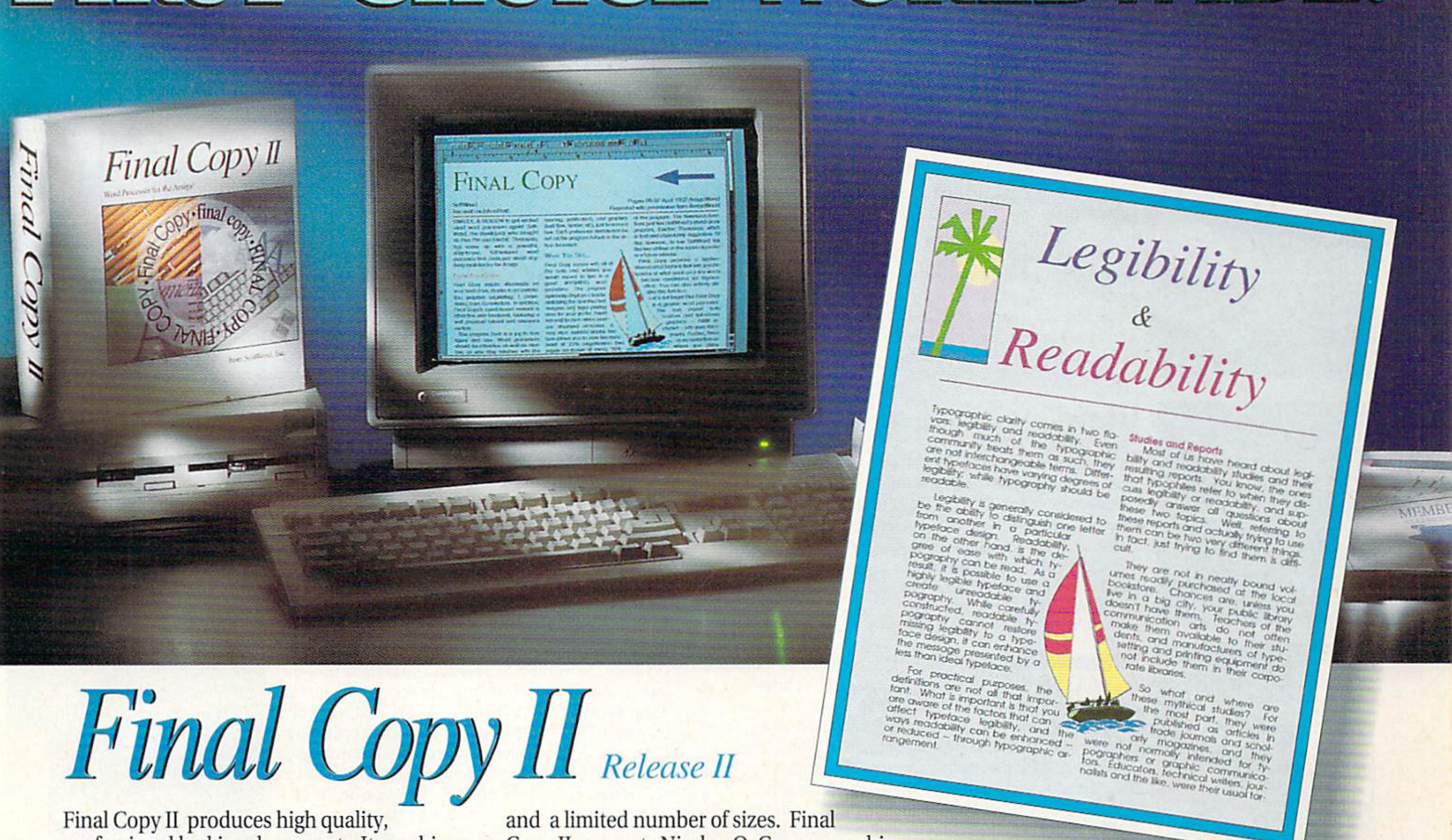
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Final Copy II *Release II*

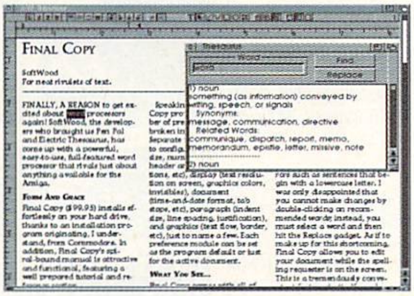
Final Copy II produces high quality, professional looking documents. It combines advanced word processing features, easy-to-use page layout capabilities, and state-of-the-art printing technology into one convenient program.

While other programs claim to have quality printing, Final Copy II is the only word processor on the Amiga that will produce excellent quality printouts on any Workbench (1.3, 2.0 or higher) supported graphic printer. If you have a PostScript printer, Final Copy II is the only word processor on the Amiga that has true WYSIWYG PostScript print capabilities - other programs limit you to a few fonts and a limited number of sizes. Final Copy II supports NimbusQ, Compugraphic, and Type-1 outline font formats giving you access to thousands of commercial and public-domain fonts.

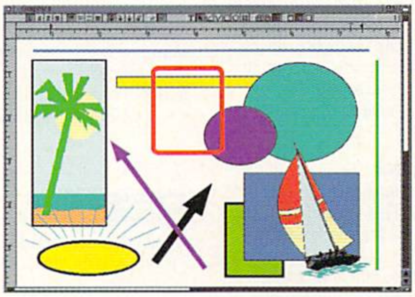
Final Copy II's word processing features include: 144,000 word speller; 1.4 million response thesaurus; automatic hyphenation; named paragraph style sheets; master pages; mail-merge; multiple newspaper style columns; search and replace; header and footer support; left, right, center and decimal tabs; paragraph justification; and automatic date, time, and page number insertion.

Final Copy II's graphic features include: object-oriented, structured tools for drawing boxes, ovals, lines, arrow-tipped lines, and rounded cornered boxes; cropping; graphic sizing; object locking; and graphic depth arranging. Full AGA support lets you work in screens having up to 256 colors.

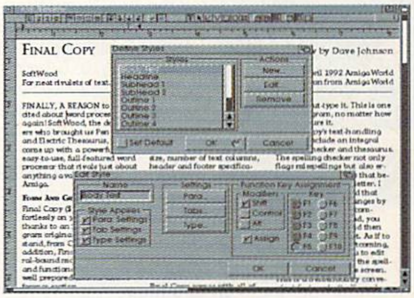
Final Copy II now available in American English, British English, German, French, and French-Canadian versions is the best selling word processor for the Amiga in the world. As stated in a recent AmigaWorld review, "FinalCopy II pulls into the lead of the Amiga word-processing pack."



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System Requirements: Amiga® with at least 1 megabyte of RAM and either a hard drive or 2 floppy drives.
To use Compugraphic fonts you must have a hard drive and WB 2.1 or greater.

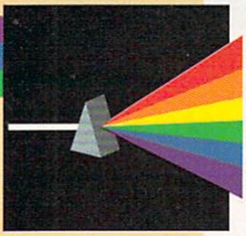
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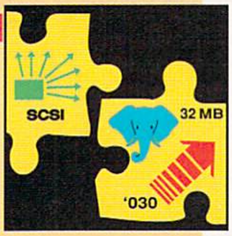
EGS 28/24 SPECTRUM™ Go Beyond AGA Graphics with this real-time, 24-bit, true-color graphics enhancement card. Programmable resolutions up to 1600x1280! 800x600 in 24-bit! We include a custom display pass-through cable for single-monitor use. Many applications are ready-to-run and we include the acclaimed **EGS Paint** as a bonus too! Bring workstation graphic power to your Amiga today and see what you've been missing!

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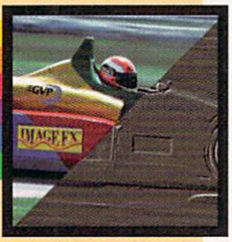
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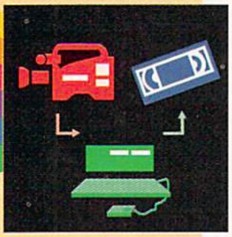
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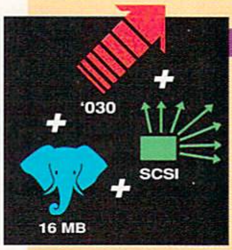
G-Lock™ Bring live video, audio and Amiga graphics together and do it on ***any*** Amiga! Get connected with the world of video with our built-in transcoder to convert input video to composite, Y/C, RGB or YUV outputs! Full support for AGA systems as well as the 'classic' Amiga 500, 2000 and 3000. Acclaimed interface controls make this easy to use and simple to control. **Scala™** users even get an EX module to use **G-Lock** in their multimedia applications. Add G-Lock's included dual-input audio panel and it's simply the best choice for every personal Amiga owner.

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IV-24™ 2.0 — The Ultimate Genlock This is what you have been searching for in a professional quality genlock for your Amiga 2000, 3000 or 4000. This integrated hardware design provides the crispest, cleanest genlocked video on the Amiga desktop. With options for RGB, composite, SVHS, Betacam and M-II compatible inputs & outputs as well as a 24-bit, 16.7 million color frame-buffer and real-time framegrabber/digitizer, this is ***the*** Amiga genlock every professional needs. Powerful included software completes this picture as the Ultimate Genlock.

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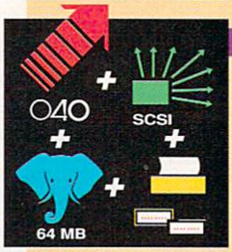


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GVP's classic Combo card accelerates your Amiga 2000 to new heights! This integrated design slips into the processor option slot in your system and instantly provides dramatic performance improvements. Easily add up to 16MB of fast 32-bit RAM. Gain expansion and versatility with our powerful SCSI II interface, allowing you to connect up to 7 devices such as hard drives, SyQuest removables or CD-ROM drives. Feel the power of **G-Force** today!

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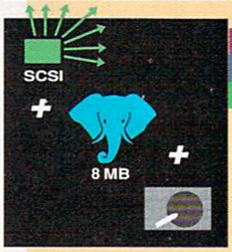
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CIRCLE **35** ON READER SERVICE CARD



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Feeling trapped? Let GVP extend your horizons with our easy-to-use **ioExtender**. Contained on a single card, you will find an additional parallel port, allowing you to connect a printer and a digitizer (such as DSS8+) at the same time. No more messy, unreliable switch boxes! We include two, that's right, two high-speed, FIFO buffered serial ports. No more dropped data or bogged-down computers when transferring data via modem (at speeds in excess of 57,600!). Free your ports and regain performance on your Amiga with **ioExtender**!

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PhonePak™ VFX



PhonePak VFX™ 2.0

If you are calling for VoiceMail Press 1. If you would like to send a Fax, Press 2. If you would like to have this automated, scheduled, time/date stamped and call you when you have new mail, get **PhonePak VFX 2.0** today! Fully integrated, allowing unlimited mailboxes and private fax receiving. Send faxes from any program that prints. Call in remotely and retrieve faxes sent earlier. Plain paper or paperless faxing. Call routing with Centrex/PBX support, and more!

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DSS8+ DIGITAL SOUND STUDIO Clearly Superior! This is the quietest, most professional and attractive digital sound sampler yet made. Assembled of high-impact clear polycarbonate, this is the sound sampler to own for the Amiga. The versatile **Digital Sound Studio** software includes a multifaceted program for sampling, editing, song composition, stereo sound playback as well as creation of .MOD format songs.

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A4000

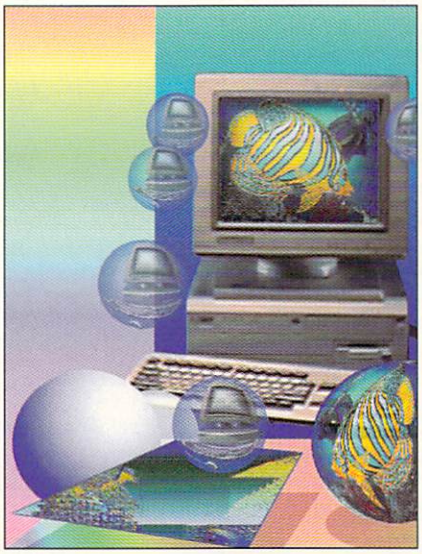
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CONTENTS

VOLUME 10, NUMBER 1, JANUARY 1994



There's plenty for the graphics-minded Amiga user here—with a critical evaluation of sophisticated new paint software to a "graphics-for-everyone" buyer's guide to clip-art collections. If a picture is worth a thousand words, then you're getting a couple of millions' worth this month!

COVER ILLUSTRATION BY PHIL FITZPATRICK

EDITOR'S DRAWER

Welcome to a new year, new beginnings, and a time to reflect on the role of computers in our lives.

Electronic Marvels & Miscues

Over a decade ago, *Time*'s prestigious Man of the Year honors were bestowed upon... a machine. That's right, the personal computer garnered the magazine's first machine of the year award, and ever since, this silicon wonder has influenced our lives for better or worse and in obvious as well as subtle ways.

Educators claim that the medium—pen and paper vs. keyboard—artists use to express their thoughts may affect both the content and style of their work—from the most trivial correspondence to major literary opuses. Some scholars fear that the ease with which we can now electronically manipulate words and sentences may cause our writing to suffer, as we put less thought and care into our electronic compositions. To what extent computers affect our work—by processing words or images—is hotly debated in academia, but no one is suggesting that we abandon this technology. Or that Tom Clancy take up a quill pen to jot down his latest technological thriller.

Technology has also effected dramatic changes in communications. E-mail has replaced postal mail, as the envelope and stamp have gone the way of the 300-baud modem. Computer-to-computer communication is so much easier and quicker... if somewhat less personal.

For an example of how we are inching our way towards a paperless society, turn to our report (p. 65) on the Internet phenomenon. Touted as a hydra-headed global organization, this vast computer network allows millions of computer users to access databases, transfer files, exchange electronic mail, or just chat directly with other on-line surfers... in the comfort of their homes.

From voice recognition to video creations, technological advances have improved our lives. But, like ice cream sundaes, too much of a good thing can sometimes produce unwanted effects.

Consider, for example, the CD technology that brings you electronic novels. Books on paper always worked fine for me. The prospect of reading a novel on-screen seems a tedious and confining task.

And then there are PDAs—personal digital assistants. How practical are these hand-held gadgets that promise to organize our lives by maintaining addresses, telephone numbers, appointments, schedules, and so on? And, they'll even recognize your scrawl—but not too reliably. Like the electronic novel, PDAs—at this point—represent the triumph of technology over need.

Progress happens, but sometimes new technology replaces current technology simply for the sake of change, not because it works any better or is less expensive.

As we enter the new calendar year 1994, we recommit ourselves to exploring the terrific potential—productivity, creativity, educational, and entertainment—of the Amiga, which will continue to play an increasingly active role in our lives. Stay tuned.

Dennis Brisson

Dennis Brisson
Editor-in-Chief

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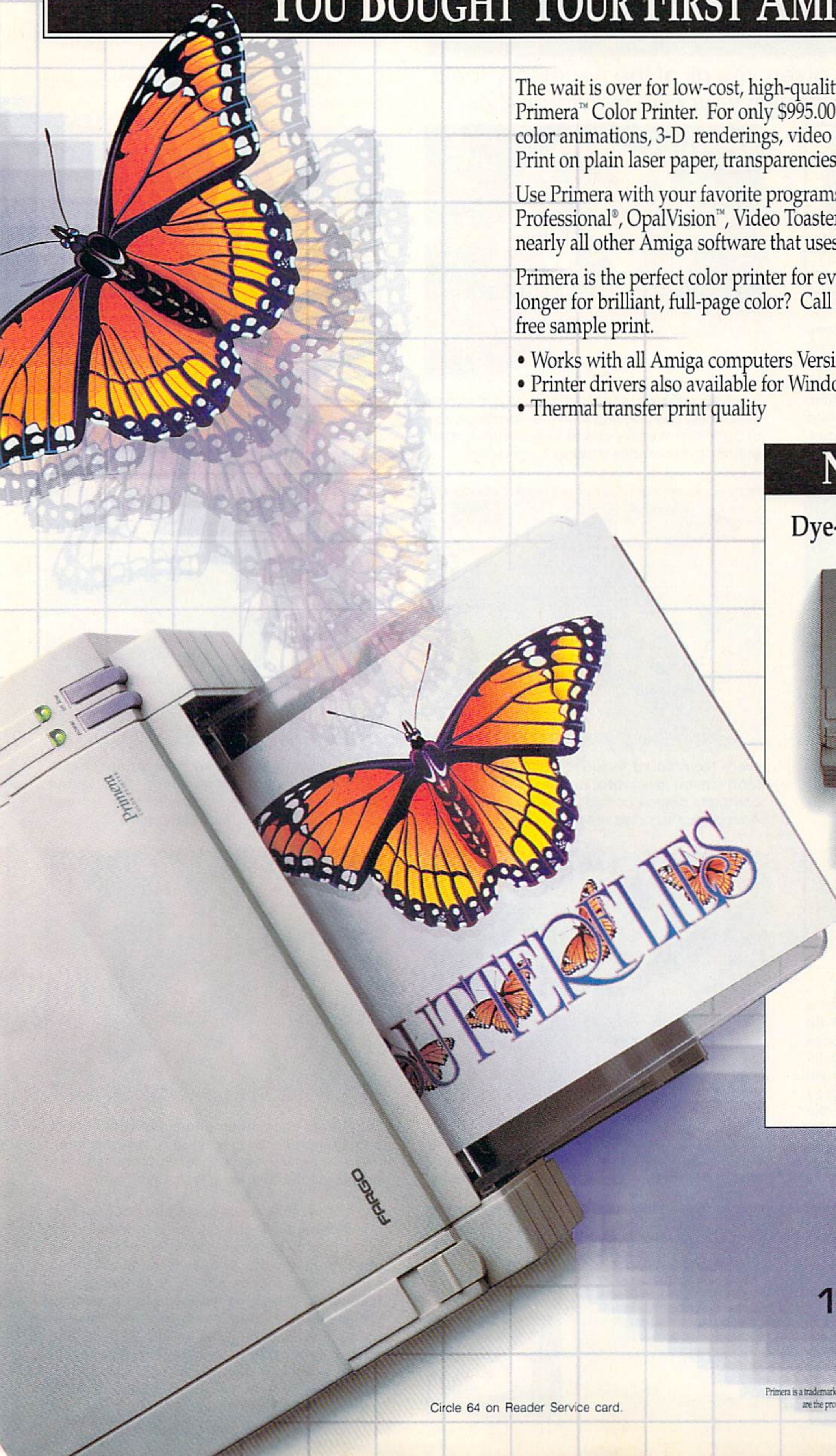
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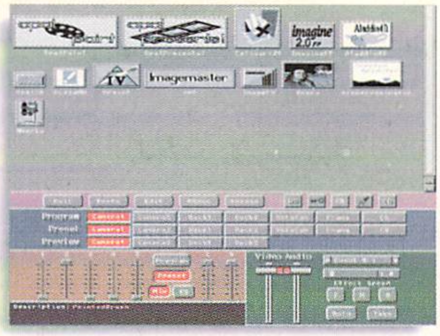
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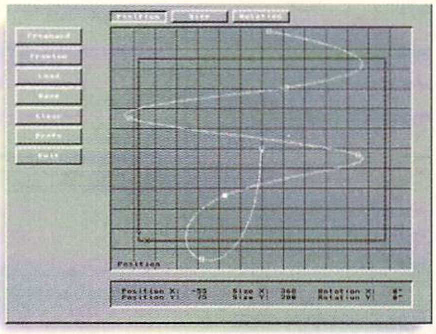
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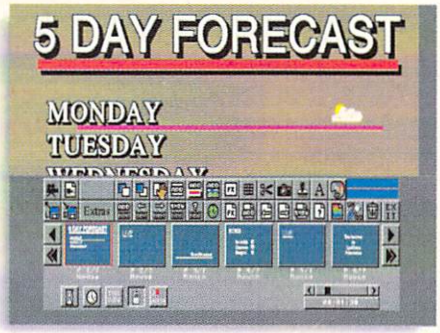
In addition to the wealth of software included with the OpalVision system, you can access a wide array of OpalVision-compatible Amiga software directly from the switcher screen!



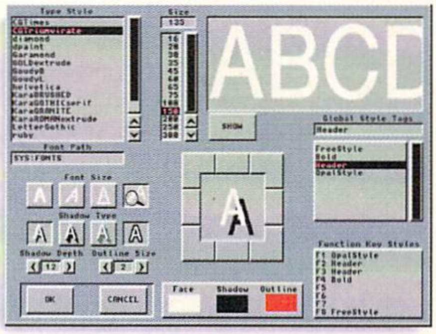
The on-screen editor makes creating your own DVE's fast and easy. Define the position, size and X or Y rotation and the Roaster Chip will transform any video signal at your command.



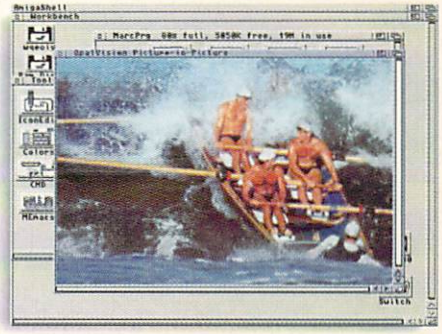
The Video Processor's broadcast-quality genlocker allows both Amiga and OpalVision-generated graphics and animations to be combined with any video source.



The Opal Character Generator offers full 35ns text capability on the A3000 or 4000. Supports Amiga, Compugraphic and Color fonts. CG pages may be incorporated directly into the switcher.



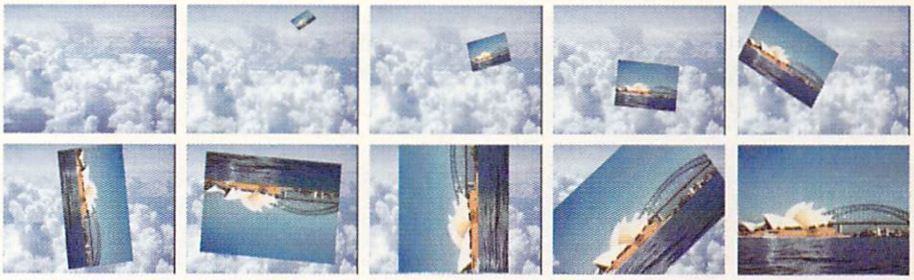
Opal Character Generator features selectable font size, color, outline, drop shadow and anti-aliasing. The CG also creates draggable boxes of text, graphic separators, or IFF brushes and pictures.

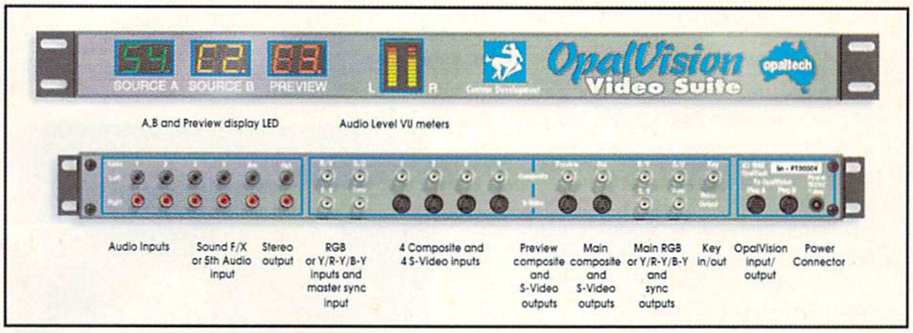


Any video input can be displayed in a draggable, scrollable and resizable window on the Amiga Workbench. Also allows zooming in and out and has AREXX for remote control from other software.

OpalVision Roaster Chip

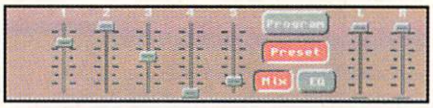
The exclusive technology of the OpalVision Roaster Chip provides an endless number of user-definable Digital Video Effects. Take any two video sources (or an Amiga or OpalVision generated graphic). Flip it. Scale it. Rotate it on the X, Y or Z axis. Move it along a path. Zoom in. Move out. You have complete control. Build your own custom library of useful wipes and effects and give your videos a unique style. OpalVision is the only video system in its price class which gives you this kind of power. You've got to see it to believe it!





OpalVision Video Suite

A 19-inch, rack-mountable, video/audio mixing, switching and transcoding device which connects directly to the Video Processor. Nine video and ten audio inputs are available simultaneously in RGB, Y/R-Y/B-Y, Composite and S-Video. Choose two sources from these inputs, assign a transition or special effect provided by the Video Processor, and trigger it manually or automatically. The linear transparency key provides transparency control between video sources on a pixel-by-pixel basis. The ten audio inputs (five stereo pairs) are fully software-sequenced with smooth fades and full, 5-band frequency equalization.



The automated audio mixer (shown here in a detail from the switcher control panel) features full audio-follows-video capability, plus an on-screen panel with sliders for each of the five stereo audio inputs available on the Video Suite. Sliders control volume and/or 5-band EQ.

OpalVision Scan-Rate Converter/TBC

Add this card and achieve 31Khz, non-interlaced output of Amiga and OpalVision graphics and any incoming video source in either PAL or NTSC. Includes full time-base correction of incoming video. The on-board memory also serves as an additional frame-store.

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OVERSCAN

News, New Products and Networks

OUT WITH THE OLD...

Is it time to enhance your existing gear? Check out the latest batch of upgrades just in time for the new year.

With ***GVP's*** new **16MB SIMM modules**, you can increase the RAM of the GForce '040 up to 64MB, and of the A1230 Turbo+ to 32MB. Due to an ongoing shortage of DRAM chips, quantities of these SIMMs are limited; contact your dealer for details. (RS# 120.)

With **AutoXA**, a free software upgrade, your Amiga will automatically recognize the 32-bit memory on ***MicroBotics'*** M1230 XA accelerator earlier in the startup process. AutoXA loads various libraries, devices, and file systems of AmigaDOS into the accelerator's fast RAM upon warm-reboot for an immediate performance boost. With the release of AmigaDOS 3.1, the RAM will be auto-recognized at boot-up. AutoXA is available at no charge on networks such as CompuServe and BIX, and through dealers. Additionally, the disk is available directly from MicroBotics for the cost of shipping and handling (approximately $7 in the US; $12 overseas). (RS# 121.)

TypeSmith 2.0 ($199.95, ***Soft-Logik***), the outline-font editor, now lets you load, save, edit, and create bitmapped screen fonts. Other new options include a hinting capability to make fonts look better in lo-res and at small point sizes. With the hinting feature, PostScript fonts can be converted to the Intellifont format. The upgrade also lets you trace a picture automatically; simply load and choose the Autotrace command. Owners of previous versions can upgrade for $50; those who purchased after August 15 can upgrade for free. (RS# 123.)

PC Task 2.0 ($49.95, ***DevWare***) promises to run most MS-DOS software on the Amiga. It may not perform as fast as a hardware emulator, but it costs much less, and claims to be the sole software-only option that provides VGA emulation. The software even emulates Super VGA on AGA Amigas. It converts floppy drives to MS-DOS drives, and transforms extra Amiga memory to PC RAM. (RS# 124.)

The Blue Ribbon SoundWorks (RS# 125) is offering two new add-ons for the Bars&Pipes Professional 2.0 music-composition program: **Performance Tools Kit** and **Power Tools Kit**. Each provides 21 new tools and costs $69.95.

The Performance package offers a timing-display tool that informs you whether you are playing on time with the current tempo. Another tool lets you replace one patch change with another. One program in the Power Tools Kit converts note-ons and note-offs to user-defined control changes; another is a MIDI-data viewer.

PUT IT IN PRINT

There has been a lot cookin' since our last look at printers in the September issue.

The **Primera thermal-transfer color printer** ($995, ***Fargo Electronics***) claims to print up to four times as fast as an ink-jet printer and requires no drying time. The Primera prints hi-res color onto both letter and A4-size paper and transparencies; additionally, a monochrome ribbon cartridge is available for economical text-only printing. You can get the Amiga driver at no extra charge by calling Fargo's technical support (612/941-0050) or through the company's BBS on CompuServe. The driver is compatible with AmigaDOS 1.3 or later and requires 2MB of RAM (4MB recommended). (RS# 132.)

With the Canon Studio driver software—available on BBSs, from Fred Fish disk #738, and through MacroSystemUS (about $15)—you can take advantage of two new printers from ***Canon***: the monochrome **LBP-430** laser and the color **BJC-600** ink jet.

The LBP-430 ($799) has a 100-sheet cassette for letter, legal, and executive-size paper. It is compact in size (14x14x6 inches) and prints 300 dpi (dots per inch) at four pages per minute. The printer includes 22 fonts (eight are scalable) and 1MB of RAM. The LBP-430 uses Canon's superfine toner; replacements cost $85.

The BJC-600 ($719) is a 360-dpi color printer. The latest Bubble Jet features Canon's new ink formula, which claims to dry 100 times faster than conventional ink. It uses four separate cartridges to hold the primary colors (cyan, magenta, yellow, and true black), which are replaceable individually at $7.50 for black and $8 for each of the others. The BJC-600 promises faster output due to its quadruple print-head design. Besides plain-paper output, it can print on labels, transparencies, and back-print film (available soon from Canon). (RS# 133.)



The Canon BJC-600 features a unique print-head design for cleaner color output. ►

To locate the vendors of products mentioned, see the "Manufacturers'/Distributors' Addresses" list on p. 108.

Team Amiga

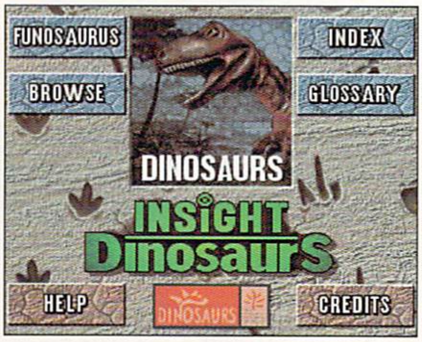
You can instill some "team spirit" into your Amigas with two new options for your ELAN-DFS peer-to-peer networking software from ***Interworks***: **I-Card** and **Toaster-Net.**

With the I-Card ($299), you can team up your A1200 or A600 with an existing Ethernet-based network to share devices, directories, and peripherals. The I-Card package includes a 16-bit Ethernet adapter and a SANA II-compatible driver.

LightWave 3D rendering can be a team effort when you network two or more Toasters with the Toaster-Net software. Toaster-Net lets you move complete scenes between systems and render sequences and selective frames across a network for optimum efficiency. Toaster-Net requires NewTek's Toaster 3.0 software and costs $349 for a five-system license (the license is expandable in five-system increments). (RS# 130.)

CD32 Time Capsules

Before you can clone dinosaurs à la *Jurassic Park*, you will need to gain some insight about them. **Insight: Dinosaurs** (£39.95, ***Optonica***) may help all of you aspiring paleontologists. It is the second in the Insight series of home reference titles from Optonica for the Amiga CD32, CDTV, and Commodore's A570 CD-ROM drive. The colorful CD-ROM includes dinosaur facts, quizzes, puzzles, and more. It was produced in association with the British Natural History Museum.



Insight: Dinosaurs will walk you through the dawn of time via CD-ROM.

What better way is there to start a new year than to reflect on the passing one? **The Guinness Disc of Records—2nd Edition** (***New Media***) is a compilation of the popular US and UK book editions on CD-ROM for the Amiga CD32. The pictorial database is indexed alphabetically and via superlatives such as "the longest speech." It includes approximately 3500 records and more than 800 photographs, and features six audio-visual tours. The new edition takes advantage of the CD32's hi-res capabilities to display all graphics and photographs in HAM8. (RS# 122.)

Get Back on Speaking Terms With Your Amiga

If you bought a new Amiga recently and wonder why your machine has not been speaking to you, it's not your fault. Commodore dropped speech support with AmigaDOS 2.1.

The speech program that came with AmigaDOS versions 2.04 and earlier does not actually belong to Commodore; it was licensed from the Los Angeles-based company Soft Voice. According to Joe Katc, co-owner of Soft Voice, Commodore broke off negotiations six months prior to the release of AmigaDOS 2.1.

Commodore reps have stated that speech is still important, and at present, engineers are evaluating the program's usefulness with potential plans for an improved utility. Initially, development will focus on the UK market, which constitutes 90% of all Amiga sales. Representatives at Commodore, however, decline to give details as to when, if ever, speech synthesis will be available again.

The Say command is not widely utilized in commercial programs, but some programs, including New Horizon's word processor ProWrite 3.3, allow you to hear the text you've typed. Because the Say command only approximates a word's sound, mispronunciations occur (the word "sew" sounds like "sue," for instance). This is one deficiency that could be addressed in further developments.

Can We Talk?

Although speech is no longer standard on AmigaDOS, you can easily install it onto your new Workbench. Get a copy of Workbench 2.04 from an Amiga dealer or mail-order vendor, and simply copy four files. The narrator.device file goes into the Workbench DEVS directory, the translator.library gets copied to the LIBS directory, and the Say command should be placed into the Utilities directory along with its icon, Say.info.

Those who wish to mount Say during the startup-sequence must copy SPEAK along with its icon, SPEAK.info, from the directory DEVS/DOSDrivers on the updated Workbench 2.04.

—*Andrew Desjardins*

For Your Video Kitchen

Shopping for that new "home appliance" for your video studio? **Sync Strainer** ($59.95, ***PreVue Technologies***) is a multisync monitor adapter that attaches to the Amiga's 23-pin video port. It includes a second connector for the display-monitor cable, which is available as either a nine-pin D connector or a high-density 15-pin connector. The Sync Strainer buffers the H- and V-sync signals and, when a genlock is in use (as with the Video Toaster), it creates regenerated H- and V-sync signals from composite sync. It requires a multisync monitor that scans at a 15.7 KHz horizontal rate. Any genlock that does not use the Amiga's 23-pin video port can be used with the Sync Strainer. (RS# 134.)

Color Capturers

The latest generation of ***Rombo's*** low-cost color digitizers work in real-time, so there's no waiting for your images. **Vidi Amiga (12) RT** (£199) captures mono and color images while **Vidi Amiga (24) RT** (£299) can capture 24-bit color for photo-realistic results. Each takes input from S-VHS and composite sources. Additionally, Vidi Amiga (24) RT accepts Y/C input.

The included software supports most file formats, so you can import images from Mac and PC platforms. Both packages also offer animation software, and are compatible with any Amiga. For those who want to keep their options open, Vidi Amiga (12) RT can be upgraded to Amiga (24) RT. (RS# 135.)

AW Shucks

Printer Goof-up: Discerning *AmigaWorld* readers will have noted that page 24 of the December issue featured Mac and PC-related editorial. A page from our sister publication, *Desktop Video World,* was inadvertently substituted for the first page of Digital Creations' two-page ad. The content of the page in no way reflects the editorial focus of *AmigaWorld* and was a mishap that occurred at the printing plant. We regret any confusion this page substitution may have caused our readers.

The Next Wave of Video Tools for your Toaster System

RETINA™

Beyond AGA Graphics to True 24 bit Workstation Graphics on your Amiga/Toaster

The Retina display adapter from MacroSystemUS is the high-resolution and 24bit answer for all Professional Amiga/Video Toaster applications. Now with the Retina, you can you render high resolution 24bit images, paint real-time in 24bit with TVPaint 2.0 Pro or XIPaint at up to 1024x768 screen size, you can interactively model, design and publish while seeing entire objects and pages on single or multiple screens. The Retina has the ability to display any AmigaOS compliant program in resolutions up to 1280x1024 Non-Interlaced and 2400x1200 interlaced. Professional users will be astonished at the variety of 24bit resolutions, up to 800x600 Non-Interlaced, or greater than 1024x768 Interlaced. Applications may be launched on their own Custom Amiga screen or on the Workbench screen allowing the user full choice in configuring their working environment! The Retina is a full featured AGA chipset emulator using Workbench 2.1. That's not all, the Retina can also run the Workbench in 24bit depth so that you can display 24bit Images and 24bit Animations directly on the Workbench screen! The Retina with TVPaint 2.0 Pro is Recommended by NewTek for use with the Video Toaster System.



RETINA Z-III™

Upgrade available for current Retina owners!

The Best has just gotten better!

Full 32bit Zorro III, Higher Resolutions, The Fastest Yet!
In an A3000 or A4000 the Retina II is unbeatable for use with TVPaint and Rendering software.
Built-in Video Encoder with Composite and S-Video Outputs. 1280x1024 24bit Res.

Features

- 15 - 80KHz Hor. Freq. and 50 - 110Hz Verti. Freq.
- 800x600 24bit Displays in either Non-Interlaced or Interlaced resolutions. 1024x768 InterLaced 24bit.
- Programmable Resolutions up to 2400x1200 - 1152x862 in 24bit
- Uses 2 to 4 Megabytes, user-upgradable.
- 4MB allows large 24bit screens for complex Graphics.
- Includes 8, 16 and 24bit animation software.
- High Speed 32bit Bus to Video Memory running at 60MHz.
- Hardware drawing assist functions to accelerate GUI Operations - 64bit data latch and BLT structure.
- Display 24bit Images or Animations on a 24bit depth Workbench Screen.
- Independent program resolution assignments!
- Compatible with the Video Toaster, OpalVision and the VLab™ Real-Time Video Digitizer.
- Requires AmigaDos 2.0 or greater.
- Full one Year warranty.
- Optional External Video Encoder with Composite and S-Video outputs available for the Retina.
- 1084/Composite Sync Adaptor available for the Retina.

TVPaint 2.0 Professional™

The State of the Art in 32 bit Painting for the Amiga.

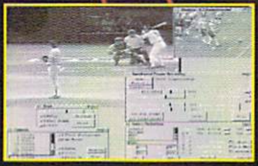
TVPaint is the fastest 32 bit Paint Package available for the Amiga. Some of TVPaints features: Automatic Antialiasing on drawing tools, Powerful Airbrush tools, Density control on tools, Full Undo/Redo, Spare/Swap screens, Convolution Effects, Definable Magnification Window, Custom Masks, Pressure Sensitive Tablet support, Full CLT.

Retina Version – Suggested List $449.95



VLab Y/C™

Digitize 30fps Video from Video Tape or Laser Disk



For the first time building lengthy digital video segments no longer requires expensive and slow frame by frame digitizing. Using a revolutionary new concept, MacroSystem has provided a new Interleaved Frame Recording feature (VLab and VLab Y/C).
Interleaved Frame Recording or IFR basically allows the VLab to digitize full 30fps digital video sequences to HardDisk by making multiple passes of the recorded video. The VLab digitizes the frames directly to HardDisk as sequentially numbered frames.

Hardware Features:

- Frame grab in 1/30th sec. or Field grab in 1/60th sec.
- Digitize 30fps Video using IFR
- Digitizes full frame full color - NTSC or PAL signals.
- Save frames as YUV, IFF24, AGA
- VLab Y/C -1 Y/C & 2 Composite inputs.
- VLab &VLab 1200 - 2 Composite inputs.
- Time Base Corrector not required.
- Compatible with the Video Toaster, OpalVision.
- VLab control windows allow you to keep multiple critical controls open at the same time. And the monitor window display lets you see exactly what you are digitizing.
- Real time Color, Contrast, Luminance and Gamma, Luminance, Chromanace controls.
- Includes ADPro and ImageFX Loader modules.
- Supported by the Nucleas Personal SFC.

Toccata 16™

16bit/48KHz Audio Digitizer - 3 Stereo Inputs with Mixer

The Toccata is a full 16bit audio digitizer with 3 Stereo inputs, 1 Mic input and 1 Stereo output. The Toccata will work in any ZorroII or ZorroIII slot. The Toccata can digitize at up to 48KHz in 16bit direct to hard disk. Special features are an onboard mixer and optional ADPCM compression. The ADPCM compression allows digitizing at 32KHz directly to a floppy disk and playback from floppy. Playback from HardDisk can be up to 16 channels in 16bit. The Toccata can also be used with the VLab IFR to digitize the audio for a video sequence. Simultaneous Record and Playback from HardDrive. The Toccata comes with a special version of SEKD's award-winning audio editing software package, Samplitude.

Technical Specifications:

- 3 Stereo (6 Channels) Inputs
- 1 MicroPhone Input
- 1 Stereo (2 Channels) Output
- On board mixer
- Record and Playback Simultaneously
- Reads Audio SMPTE Time Code
- 64 Times Oversampling
- 16 different sampling rates
- Frequency Response 10Hz to 20KHz
- 90db Signal to noise ratio
- Dual 16bit delta-sigma A/D converters
- Dual 16bit delta-sigma D/A converters

Suggested List Price ..$599.95

MacroSystemUS™

24282 Lynwood, Suite 101 Novi, MI 48374 (313) 347-6266 Phone (313) 347-6643 Fax

Retina, Vlab and TVPaint are trademarks of MacroSystemUS. The VideoToaster and LightWave 3D are trademarks of NewTek, Inc. ADPro is a registered trademark of ASDG, Inc.

Circle 157 on Reader Service card.

Video, German Style

RCS Management of Germany (RS# 137) is keeping busy with two new products for video and animation enthusiasts.

The **Digital Editor Card** ($3995) for the A3000/4000 promises to turn your Amiga into a nonlinear-editing system. It lets you compress real-time video (from any standard NTSC, PAL, RGB, or S-VHS source) to your hard drive at 30 frames per second (NTSC) and then outputs to a standard VTR. Digital Editor can also digitize 16-bit stereo sound along with the video so that the audio track is attached to the video track at the same time. Up to eight tracks of video and audio can be edited simultaneously. The included converter lets you transform IFF24 images into Digital Editor format so that you can store and play back animations as well.

Revelation 3D ($445) is RCS's new 3-D graphics and animation software. Besides offering standard 3-D features, Revelation 3D lets you shade objects in true color, and adjust, rotate, move, shear, and scale objects at 25 frames per second. It also includes more than 30 fully adjustable textures. You can convert standard CompuGraphic scalable fonts to 3-D fonts, and Revelation 3D supports many 3-D object file formats, including AutoCAD, Imagine, and DXF. It also supports serial-port and network-distributed rendering for optimum performance. The package requires AmigaDOS 2.0 or later, at least 6MB of RAM, and a 68020/30 with FPU or a 68040 accelerator.

Painting the Town(house) Red

ColorVision 4 (about $2000, ***ColorVision***) will have you seeing red...and hundreds of other colors, too. The color-sampling software displays hi-res photographic images of home interiors and exteriors in user-defined color schemes. ColorVision 4 is designed for home-decorator professionals to assist in their clients' decision-making process. With it, you can define not only paint color, but also the look of tiles, roofing, vinyl flooring, and more. A complete kiosk system for showrooms is also available for about $4000. (RS# 131.) ■



ON-LINE SCAN

By Tim Walsh

Many Amigas were purchased more for their video, music, and games prowess than for the traditional computer tasks that make life easier. If you're looking to balance your checkbook, however, or seeking an electronic appointment keeper or a recipe database, an Amiga can fit the bill quite nicely—with the help of some freely distributable software.

Most of the better application-type programs can be found on all the major nets. If there's any good advice that I can share, it's that most of the older applications aren't worth the time it takes to retrieve them, unless you're running under Workbench 1.3. Older applications often don't take advantage of AmigaDOS 2.0/3.0 features. Even if you can get them to run on the newer operating systems, many functions, such as the print and screen options, often don't work. What follows is a sampling of some of the newer, better productivity programs that are found on-line for your Amiga.

Addresser 2.0:

Although there are several name-and-address databases in the public domain, few have earned their place as convincingly as this $15 shareware workhorse by Jeff Kelly. Using an intelligently designed Workbench interface with subtle 3-D buttons, Addresser 2.0 gives the impression of being a simple, easy-to-use program that makes keeping addresses an enjoyable experience.

Once you begin using Addresser, you'll realize it is simple only in operation, not in features. Many handy functions nicely complement this address keeper. You can export all records to your word processor, jump to records using A–Z buttons, and print the records to mailing labels with the click of a mouse button. Another nice option lets your modem-equipped Amiga dial voice numbers for you.

DABMenuMaker:

Most people don't buy computers primarily for menu-planning. But if you're in the market for a recipe program, check out the British import called DABMenuMaker—probably the best recipe program I've seen to date. And, it's freeware. Written by a person called DAB, DABMenuMaker offers AmigaGuide documentation, a fair number of installed recipes, interactive on-line help, a built-in calculator, and a screen that resides on the Workbench.

DABMenuMaker uses a horizontally-split screen, which allows the ingredients to reside on the scrollable top half, while the preparation instructions are listed beneath. All of your additions and deletions are automatically saved to disk. Any way you look at it, it's a nicely-executed recipe keeper.

NoteIt! 1.1:

Too often while using my computer I waste time frantically searching for an errant notepad when I need to jot down a short note. Sometimes I've even used Superbase Pro 4 as a notepad of sorts! Ryan J. Bruner's NoteIt! is a Post-It style pad for your Workbench. More flexible than paper, NoteIt! offers foolproof ease-of-use. For example, you could install the program as a Tool on your Workbench, then enter groups of your most often-called names and numbers. You can recall all the entries in a flash. Keyboard shortcuts let you scroll through records far faster than a conventional Rolodex, too.

Cnote 3.3:

When I tried Bill Doss's freeware Cnote 3.3, I was impressed by the program's slick operation. This program places a small calendar on the Workbench screen complete with a clock that cycles between the date and time. Nothing too exciting about that, except that it also offers appointment-keeping options, date-scrolling features, hotkeys, and so forth.

Clearly one of the most system-friendly reminder programs, Cnote 3.3 places a multifunction graphic calendar on the screen, using the computer's clock-time and -date as a reference. Double-clicking on a particular day calls up a custom screen that provides a number of options for checking and entering appointments. This short description doesn't do justice to this refined program. Try it, you should be happy with it.

Check Manager:

Currently at version 1.11, Jamie Mueller's Check Manager manages both your bills and your checkbook. In place of your checkbook ledger, Check Manager lets your Amiga calculate the balance based on the number of deposits and checks you've written.

Operating on a custom screen with multiple windows for each operation, the application is easy to use. Check Manager consists of two programs: an accounts payable-type module and a checkbook module that keeps track of written checks. Great for small-scale applications, Check Manager is loaded with options. Be forewarned, however, that it can handle only one checking account at a time.

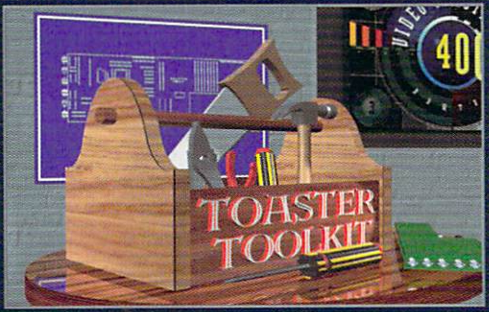
BIX
800/695-4882
617/354-4137

CompuServe
614/457-0802
800/848-8199

Delphi
800/695-4005

GEnie
800/638-9636

Portal
408/973-9111 □



Toaster ToolKit 4000

An indispensible collection of utilities for Video Toaster 2.0, 3.0 and 4000 users. Toaster Sequence Editor • Toaster Project Editor • AnimToFX • FXToAnim • Color Font Converter • FrameStore Compressor

MSRP $179.95



Cocoon Morph

The fastest and easiest-to-use morphing program you will find. Includes high end features found in expensive systems--without the Rolls Royce price! Cocoon is full-featured. Morphs are easy to set up with fast, accurate rendering.

MSRP $99.95

Video Solutions.



All images are from original video software package designs, created by Harold Russell of Atomic Toaster.

Crouton Tools 4000

Video Enthusiasts call Crouton Tools 4000 "The Easy-to-use Video Workstation Integrator," software enthusiasts call Crouton Tools 4000 "A Full-Featured Video Shell." Utilizing powerful applications with the Video Toaster was once a complex task. Dramatically increases productivity.

MSRP $149.95

Video Toaster System Design contact Harold Russell:
(801) 466-7330

Video Software Sales contact DevWare Video:
(800) 879-0759

DevWare Video

Toaster Toolkit 4000 was developed by The Byte Factory. Crouton Tools was developed by Atomic Toaster Catalog. Cocoon was developed by Ironworker Studios. Video Toaster is a trademark of NewTek, Inc.

R E V I E

Imagemaster R/t

Sophisticated image-processing system.

Black Belt Systems, $ 299.95

All Amigas.
2.04/3.0 compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.

Minimum system: **5MB, AmigaDOS 2.0 or later.**
Recommended system: **AGA, OpalVision, HAM-E, or Firecracker24; math coprocessor and generous amounts of RAM.**

Black Belt's Imagemaster R/t is one of the most powerful Amiga graphics-manipulation programs around, with literally hundreds of tools buried within its menus. With an overhauled interface and additional standard tools, it is a marked improvement over earlier versions of Imagemaster. The new name suffix, R/t, derives from the program's graphics retargetting capability.

The Tool Room

Imagemaster R/t sports an improved interface, with a control panel along the bottom foreground of the display. You won't find a single pull-down menu in sight; instead, you access every function in R/t through multiple layers of context-sensitive buttons, which vary according to your menu selections. The aforementioned standard tools are always at the ready, no matter which layer of buttons is active as you progress through the labyrinthine structure. These tools specify the type of area (circular, rectangular, or a custom shape) to process. This is a paradigm shift for Imagemaster, as previous versions didn't allow you to specify a region of the display until after you'd chosen a process to perform.

An upgraded image-load requester now possesses a catalog feature: Not only can you select files by name, but also you can alternately choose from finely detailed, thumbnail-sized replicas of previously loaded images. In addition to all of the traditional Amiga and non-Amiga file formats, R/t also saves in a new TRIM file, a high-compression format that promises no loss of image quality. Imagemaster has always supported a variety of graphics formats, and the tradition continues here. You'll discover R/t accepts IFF, IFF24, TRIM, JPEG, GIF, HAM-E, DCTV, BMP, PCX, HotLinks, Targa, TIFF, and more. In addition, Syndesis sells a PIC-format loader for R/t. The program also features an easy way to load a batch of images for script-based manipulation. If you need to process images into an animation, R/t can perform that process automatically.

To locate the vendors of the products reviewed, see the "Manufacturers'/Distributors' Addresses" list on p. 108.

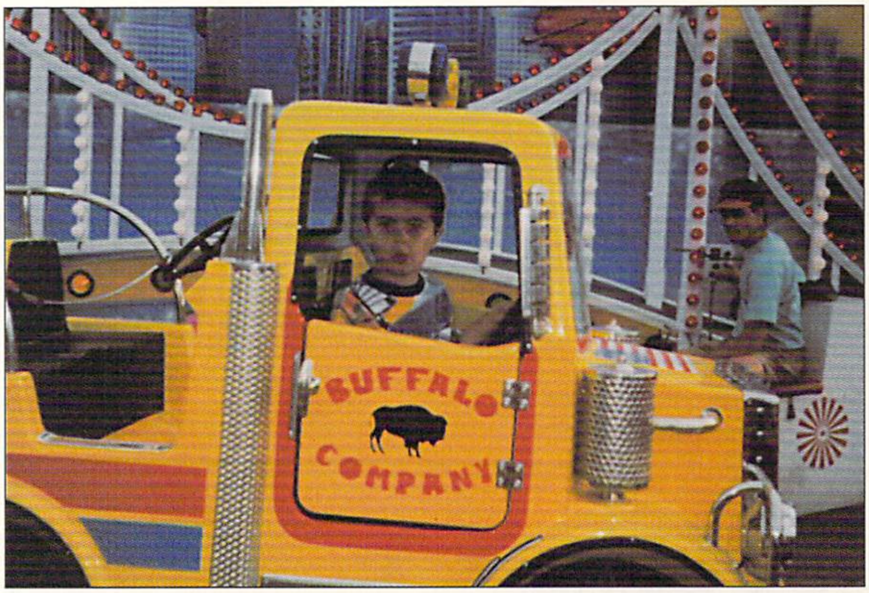
Retargetting Applications

The Process menu alone offers more than a hundred effects, from the sublime (color balancing) to the truly eye-catching (3-D nets and motion blur). My favorite feature, asterize, has also been greatly enhanced. Merely listing the features trivializes the significance and power of the program. Though the Paint controls are still not as intuitive as those of a dedicated program such as DeluxePaint, their power is impressive. The heart of Paint—line draw and area fill—holds dozens of possible variations, with many transparency effects dependent on the manner in which you configure them. You can also store an unlimited number of custom brushes in R/t's buffers. The former crude font requester has given way to a replacement that now provides font samples, but you are still restricted to entering one line of text at a time.

Of course, R/t still offers the best palette and effects tools in the business. Once you designate primary and secondary buffers, the Compose menu springs to life with over a dozen ways to combine images, including traditional rub-thru and merge effects. You'll also find a complete morphing utility that's powerful enough to hold its own as a standalone program. There's a powerful DPaint-like perspective tool there, as well.

The filmstrip tool now displays—in an attractive interface—an array of buttons for invoking functions such as modifying frames and varying playback parameters. You can display filmstrips in

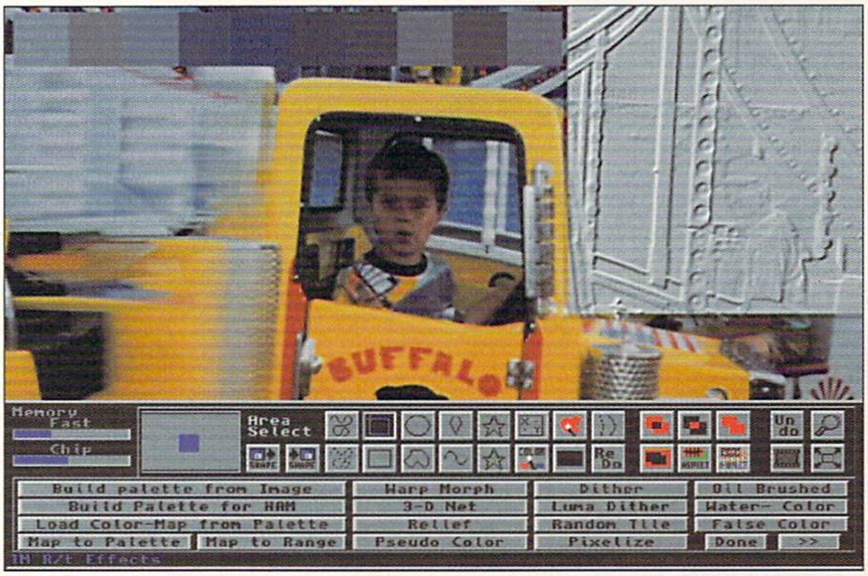
W S



color, grayscale, or AGA modes. R/t also offers a stand-alone filmstrip player for viewing animations outside of the program.

The tie that binds all this together is a powerful buffer manager that stores as many images as your RAM will allow, plus one Undo buffer. A new display option, Onion Skin, lets you overlay two display buffers with precise transparency control. R/t retains Imagemaster's complete ARexx macro language, as well as the associated Public Interface modules for calling special effects, image loaders and savers, and other unique program extensions.

The program operates in native mode from a variety of supported display cards, rather than merely displaying processed images on them. Supportable display cards must be capable of displaying standard Amiga screens—the R/t control panel, for example—on top of their own 24-bit screens. Both OpalVision (Centaur) and Firecracker (Impulse) can operate this way, so they are the first boards to get the nod in this initial version of R/t. R/t will also retarget its display to AGA, although this is just another way of saying that R/t works under Workbench 3.0. Future additions to the list of supported display cards would seem to depend on whether the card can place an Amiga screen on top of its own display and whether Black Belt can get the necessary support data from the manufacturers.



Imagemaster R/T transforms 24-bit images (top) into exciting art in minutes with many special effects (bottom).

A Virtual Manual

If you're curious about R/t's manual, there isn't one—at least, not in the conventional sense, because documentation is provided via a context-sensitive on-line help system. If you press the Help key with the pointer atop a button, Black Belt's ApAssist program launches a help screen. Significantly, Black Belt chose not to support AmigaGuide, but instead to employ its own ApAssist hypertext system. Though the two formats are incompatible, I have to admit that ApAssist's graphics handling, search features, and navigational aids are superior to those of AmigaGuide. Back Navigate, for instance, provides a list of every topic you've recently visited, and a mouse click returns you to any one of them. ApAssist should eventually be able to read AmigaGuide files, making it a complete hypertext solution.

One shortcoming of R/t's "virtual" manual is that you can't read it on the subway. Well, that's not entirely true, since you can send any part of it to the printer. This means you can print just the parts you want, and Black Belt doesn't have to charge more and sacrifice any trees to produce a manual. Paperless manuals are nothing new, but as standardized on-line help becomes more common, you can expect to see more of it. Hats off to Black Belt for trailblazing!

While the on-line Help directory occupies over a meg of hard-disk storage area, R/t's implementation is worthy of the space. The Help file includes a number of chapters to help new users get started and find their way around the interface, as well as two separate morphing tutorials and a complete reference section. Most buttons contain a narrative description, a wiring diagram to show ►

where each one resides on R/t's interface, and a hot-key to experiment with the effect. The hot-key design is truly ingenious. Pressing the hot-key returns you to the current display where you are prompted to specify a region. R/t renders the effect on your image, then gives you the option to undo the action and return to ApAssist.

Construction Ahead

Owners of Black Belt products are familiar with the company's penchant for churning out frequent and significant revisions. By the time you read this, a new version of R/t will probably be on the streets, addressing the minor shortcomings I've encountered in version 1.05 and adding some new features to boot. But that's no reason to wait. If you've gotten this far into the review without pausing to buy Imagemaster R/t for yourself, you've already waited too long. Imagemaster R/t is a tool no serious artist should be without.

—Dave Johnson

Picasso II

Expert Services, $549; additional 2MB expansion: $65

A2000/A3000/A4000.
2.04/3.0 compatible.
Accelerator compatible.
Minimum system: **2MB.**
Recommended system: **4MB, AGA Amiga and hard disk.**
Installation: **Easy.**

24-bit high-resolution display board.

Long ago, I reassured myself when I bought my 3.5K Commodore VIC-20 that it was all the computer I'd ever need. Needless to say, necessary advances have been made since then, and the truth is, no matter how fast and colorful your computer gets, there always comes an opportunity to make it just a little better—for a little more money. The Picasso II 24-bit graphics card does just that for the Amiga.

Graphic Differences

Designed by Germany's VillageTronic and distributed in the US by Expert Services, the Picasso II works in any Amiga with a free Zorro II or III slot. Since it leaves the video slot free, it can peacefully coexist with deinterlacer boards or the Video Toaster.

This 24-bit display card is based on a Cirrus Logic video chip commonly used in Windows-accelerator Super VGA boards. It sports 1MB of RAM (expandable to 2MB) and provides resolutions up to 1280x1024 pixels. You'll need a VGA or multiscan monitor, such as Commodore's 1942 or 1960, for the time-honored Commodore 1084-style monitors can't handle the Picasso II's scan rate.

The card is fast, deriving its speed from mapping its video memory directly into the Zorro II AutoConfig area, where the Amiga's processor can directly access it. This has the side effect of consuming 2MB of the available RAM in the A2000, limiting you to 6MB of 16-bit fast RAM. (You can add more if you have an accelerator board.) A jumper on the board lets you set it up in a windowed-access mode that allows the use of 8MB of 16-bit RAM, but this reduces speed and compatibility with the included utilities. It's better, therefore, to sacrifice the 2MB of RAM to the Picasso and add additional memory via an accelerator card.

Installation is simple—just plug the Picasso II into a Zorro slot and attach your monitor cable to the 15-pin connector on the board. You then run an-

other cable from your Amiga's video output to the Picasso's 15-pin RGB input connector. The unit accepts any standard ECS or AGA Amiga video frequency, as well as the output of deinterlacer boards. When you're not in a Picasso-specific graphics mode, the board just passes the video directly through to your monitor without alteration.

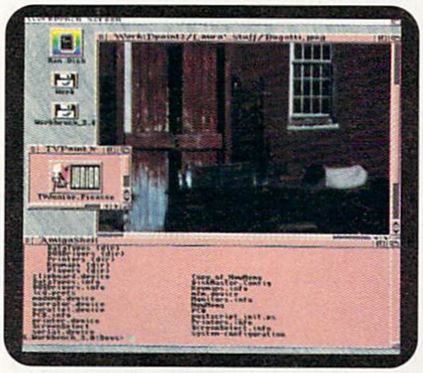
The board I tested was equipped with 2MB of RAM and offered resolutions that peaked at various color levels. For instance, 16 million colors offered a maximum of 800x600 resolution, 65,000 colors made 1152x900 available, and 256 colors gave me 1280x1024. A 1MB board offers fewer colors in the higher resolution modes, so for the small difference in cost I'd strongly suggest getting the 2MB-equipped board. Which modes are interlaced depends upon your monitor's maximum scan rate. My Commodore 1960 handles scan rates of up to 38 KHz, so I was able to get up to 800x600 resolution noninterlaced. I also tested the board with a Dell multiscan that handled 64-KHz signals, and I was able to get up to 1152x900 mode without interlace. Note that interlaced modes are refreshed at much higher rates than standard Amiga interlace modes, making the flicker barely noticeable.

Picasso Control

You install Picasso's software through Commodore's standard Installer program. Unlike some 24-bit boards that work only with specific applications or require an "AGA emulation" driver, the Picasso II software adds itself to the Amiga's screenmodes list; any application that brings up a list of available graphics modes should work with this card. I was able to use Professional Page 4.1, TypeSmith, Mand2000, and a number of shareware programs in Picasso modes. You can select a Picasso mode for the Workbench by using the ScreenMode Prefs program, so any application that opens a window on the Workbench should be compatible. The only programs I couldn't get to work in Picasso modes were DeluxePaint IV AGA and Brilliance, both of which access the Amiga's hardware directly.

The drivers do a great job of emulating normal Amiga behavior, and usually it's not obvious whether you're operating in an Amiga or Picasso graphic environment. You just use the standard screen-depth gadget or Amiga-M to swap screens. This is one of the only boards I've seen that allows you to pull down screens. Telecommunications programs that display a phone-book screen in front of your terminal screen could benefit from this; many graphics boards won't display two Intuition screens simultaneously.

The package includes a utility called ChangeScreen, which pops up a requester whenever a program opens a screen. You can tell the application to open in its normal screenmode or promote it to a Picasso mode; ChangeScreen can remember screen names, so you need to select a mode for a program only the first time you run it. ChangeScreen effectively forces programs such as ProWrite and Imagine to run in Picasso's 640x480 mode instead of hi-res interlaced mode. I was most impressed, though, when I was able to use ChangeScreen to run SimLife AGA in 256-color



Let Picasso II liven your Workbench.

Picasso mode on an ECS-equipped Amiga. SimLife is one of a precious few AGA games, and the Picasso II board won't let you run games like Zool AGA on your non-AGA/ECS Amiga. Games do run well with the board installed, however, since standard Amiga video signals pass through it.

Picasso drivers are included for Art Department Professional (ASDG), ImageFX (GVP), Imagemaster (Black Belt), Real 3D (RealSoft), and a few other programs. I tested the ADPro and ImageFX drivers and found them reliable and full-featured, allowing you to render images in 32,000, 64,000, or 16 million colors. Picasso-specific display programs are also included for MPEG, GIF, JPEG, and IFF files. Animations in MPEG format look spectacular in 24-bit mode and play dramatically faster than they do in AGA mode on an A4000. Terra Nova development is creating an IFF ANIM player that will support the Picasso II and other graphics boards.

256 Reasons

The Picasso II requires Workbench 2.04 or later. If you run the board with 2.04 or 2.1, you'll be able to get all the high resolutions, but at a maximum of 16 colors. Expert Services hopes to have AmigaDOS 3.1 support available for the A2000 and A3000 by the time you read this; with that installed, programs that use standard Intuition routines will have access to 256-color modes and you'll theoretically be able to run most AGA productivity software on your A2000 or A3000.

Even if future plans don't call for AmigaDOS 3.1, though, there's still plenty of incentive to install a Picasso. The board is impressively faster than the Amiga's native graphics hardware and OS—you can run a 16-color ECS Workbench or 256-color AGA Workbench with almost no refresh bogging at all. And the higher resolutions are great for desktop publishing or programming.

Also, because the Picasso's memory is accessed directly by the processor through the Zorro bus, its displays use no chip RAM. Running a 1024x768 Workbench in 256 colors, along with ProWrite and Final Copy running in 256-color Picasso mode, I still had almost the full 2MB of chip memory available in my Amiga 4000. Running in similar standard AGA modes, almost half of my chip RAM was spoken for.

If you have an Emplant Macintosh emulator (Utilities Unlimited), the Picasso not only performs better in 256-color mode than the standard AGA drivers, but it also offers both 16-bit and 24-bit true-color modes. The Picasso is also supported by GfxBase's X11 X-Windows software; GfxBase will be offering a special bundle including X11, the Picasso II, and a three-button optical Boing! Mouse.

Painter's Delight

The card I reviewed came bundled with Cloanto's Personal Paint 2.1 Lite, a powerful paint program that supports up to 256 colors. By the time you read this, though, Expert Services should be including the much better 24-bit TVPaint Jr. (MacroSystemUS). A professional bundle including the full-blown TVPaint is also planned, as well as an inexpensive NTSC/PAL video encoder with multiple options, such as the ability to feed the Picasso II output into a Video Toaster's input line so you can use TVPaint as a paintbox program for LightWave.

The board's documentation is thorough, even including a section on creating your own programs for the card, with the necessary libraries and Include files on the accompanying disks. Technical support is available on Expert Services' BBS and its vendor area on the Portal network; enhanced drivers are ►

regularly posted to both locations.

Colorful Value

This is a solid product. The few problems I had with the drivers were solved in an update that appeared on the company's BBS within a week after I received the board. Another problem surfaced in Picasso II modes, where the software expects the mouse pointer's hot spot to be in the upper-left corner. This was easily solved by exchanging my Opus pointer for the default Workbench pointer. Since the Picasso II uses the standard Amiga screenmode conventions, you never have to give any thought to using it—just select a Picasso mode as you would a hi- or lo-res screen.

Most of the Amiga graphics boards I've used I could recommend only to artists or video users, as they generally support a scant few paint and rendering programs. The Picasso II board, though, is a powerful, flexible board I'd recommend to anyone who uses an Amiga for anything beyond game playing.

—Denny Atkin

EXCELSIOR! BBS

Syscom Design Software, $199

All Amigas.
2.0/3.0 compatible.
Hard drive installable.
Not copy protected.
Accelerator compatible.
***Minimum system:* 2MB, 20MB hard disk, any serial modem.**
***Recommended system:* 3MB, 100MB or larger hard disk for messages and files, 14,400-baud modem.**

Bulletin-board system for your Amiga.

Computer bulletin boards all operate in roughly the same way—they accept incoming calls, provide databases of files, and generally allow for some form of communication or e-mail between computer users. The design philosophy behind EXCELSIOR!, a new Amiga bulletin-board system (BBS) from Syscom Design Software, is flexibility. Filled with options for almost every aspect of its operations, EXCELSIOR! makes for a very open-ended and customizable BBS.

Logged On

Like any good BBS, EXCELSIOR! supports multiple phone lines/modems, provided the host Amiga is equipped with a multiport serial card. One of its more interesting configuration options is minimum baud-rate support for a particular line. For example, if one line is dedicated to receive calls from 9600-baud or faster modems, the BBS allows only calls that meet that criteria to connect. Slower baud-rate connections receive a message asking them to call at the default speed, and are then disconnected.

After performing the standard installation process, the Configuration program sets things up. You must enter directory paths for messages, text files, and user information. At this time, too, you must input information on the System Operator, or sysop, who maintains the board.

As expected, EXCELSIOR! supports the usual assortment of BBS files, such as message bases and file-transfer protocols. There's even a CB, or "chat," area where multiple users can "type" to each other in real time, provided the BBS is equipped with multiple lines. The program also supports the use of Doors—BBS sections that contain games, utilities, or other user-accessible programs. A wide variety of Doors programs is available in the public domain.

EXCELSIOR! is easy to alter. The sysop can reconfigure any option on the BBS, and message and file areas can be turned on or off. You can create detailed logs of user activity, call new users for automatic validation, and convert archived uploads to specified formats, such as Lharc. Customizing the BBS usually requires nothing more than a few clicks of the mouse.

You perform viewing and editing via the User Editor, which lists all current users of the BBS, displaying their current access information. The sysop can validate users for access to areas of the BBS, adjust upload/download ratios, alter access times, and adjust a multitude of other options. The user list can be sorted alphabetically or by amount of usage, area access, and even computer type.

Larger Support

Aside from local support, configuration options facilitate access to either Fidonet or Usenet networks. While the package includes some software to set up a Fidonet node, you won't find software for Usenet. The documentation talks about using EXCELSIOR! with a shareware version of UUCP, but lacks that particular file. Matt Dillon's Unix-standard UUCP is available on the EXCELSIOR! support BBS, but it would be nice if the UUCP program were included with the EXCELSIOR! package, saving the purchaser the time and effort of having to track it down.

On the other side of BBS duties, user information is available to the sysop. Graphs are available to represent caller activity, the number of file uploads/downloads, message-base activity, Door usage, and more. Reports serve as a useful tool to the sysop, since they help determine which areas need adjustment or maintenance.



EXCELSIOR!'s Sysop command panel.

Another interesting feature of EXCELSIOR! is its ability to impose a distinct charge or credit for every action performed by the user. You can keep track of how much time a user spends reading messages or downloading files, and charge accordingly. If you want to operate a pay-per-call system, or want to encourage uploads to offset download ratios, this is a useful feature.

BBS Mavens Only

The weak link in the EXCELSIOR! package is the documentation. Despite an almost overwhelming number of configuration options, the large and recently updated manual gives them little more than cursory coverage. It's also burdened with heavy doses of technical jargon, so those new to the world of telecommunications might be intimidated. The lack of an index is another shortcoming. A tutorial that takes new users through the set-up process of EXCELSIOR! will be included in future re- ►

leases, but it was not available for this review.

In the end, the complete flexibility of EXCELSIOR! is both its strength and its weakness. While the almost limitless customization choices make this a versatile BBS, those same choices can be overwhelming. Those who have never previously configured a BBS are certain to have their work cut out for them, and the manual probably won't answer every question that arises. While Fidonet and Usenet support is most welcome, there is a lack of information on how to configure EXCELSIOR! to serve as a node on either of these nets.

Overall, EXCELSIOR! is certainly a more than capable BBS program. Experienced users should definitely investigate the program if they're considering a new BBS. First-time BBS operators should be prepared to spend a significant amount of time learning about and exploring the vast number of options that makes EXCELSIOR! unique.

—Dave Thomas

HELM V1.41

***Eagle Tree Software*, $129**

All Amigas.
1.3/2.0/3.0 compatible.
Hard-drive installable.
Not copy-protected.
Accelerator compatible.
***Minimum system:* 1MB.**
***Recommended system:* 2MB, ECS, and hard drive.**

Authoring system and graphics program.

Someday, nonprogrammers may be able to create full-featured programs, optimized with error-free, lightning-fast code. Maybe we're not quite there yet, even on the Amiga, but Helm takes us a few steps closer.

Helm is an authoring system that allows those without programming skills to quickly create their own applications, such as interactive presentations, animated displays, slideshows, databases and teaching tools. It's also possible to create file managers, paint programs, image-processing software, and other advanced programs. I find it mildly amusing that Helm's most basic features allow you to quickly build a scheduler program with the functionality of the acclaimed PC utility, Lotus Organize for Windows.

PROGRAM FOR VISIONARIES

Like its rivals, CanDo and AmigaVision, Helm places powerful programming tools in the hands of Amiga users through an intelligently designed graphical interface linked to a simplified scripting language. You'll also find an extensive graphics front end designed to keep the user from having to resort to writing scripts. A critical distinction between these kinds of authoring programs is how long you can cruise the open roads of point-and-click program construction before smacking into the brick wall of the scripting language. Helm is outstanding in this regard: When the unavoidable moment arrives when composing scripts is necessary, it tries to make its language easier to master than that of its competition.

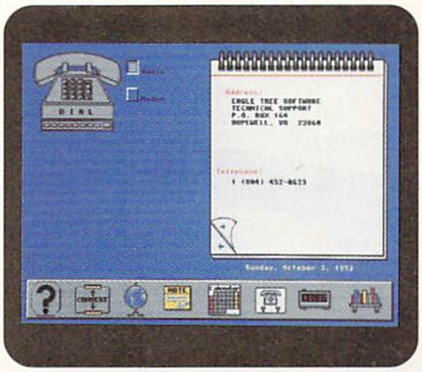
With a unique style and designed for the visually oriented, Helm uses programs called books. Like real books, they contain pages that can overlay and link with one another and that are capable of being displayed in any Amiga screen mode, including AGA. Pages can include full-color art composed of IFF-ILBM graphics and ANIM-5 animations, and you can create customized ►

animated buttons, menus, fields of text, and even charts. The application builder creates buttons and selectors triggered by keyboard, mouse, joystick or timer activity, and the buttons and selectors can access static art, animation, sound, music (8SVX, SMUS), text files, database information, the Amiga Narrator programs, and even dial a telephone number. You'll also find limited support for the serial port and multiserial cards.

As a visually oriented program, it's natural that the area where Helm excels is in graphics. Computer artists new to application design should find themselves comfortable in this environment. Helm is loaded with paint, structured-drawing and image-processing functions, all of which you can not only use to shape the look of your program, but also add to the book for access by the end user.

Adding paint-program features to a custom-built program is as easy as a few mouse clicks. This is not a new element in authoring software, but the extensive list of Helm's image-manipulation tools takes it to a new level. In addition to regular tools like curves, fills, adjustable airbrush, polygon draw, brush manipulation, matte, cycle, and smear, Helm adds Bezier curves, dissolve, tint, smudge, chaos fill, and user-customizable effects. Image-processing features include edge detection, mosaics, histograms, convolution filters, and halftoning.

You can input text from text files or type it in directly with Helm's built-in text editor. It's not as full-featured as the graphics support, but the text editor supports both ColorFonts and Compugraphic fonts. Printing is handled though the Amiga printer or PostScript. Helm has provisions for printing its own books, pages, screens, and assembled data reports.



Nicely detailed screens are Helm's forte.

More Information, Please

The presentation effects are well done, but are not as extensive as the art effects. The scrolls, fades, dissolves, and wipes are functional, but the assortment is not nearly as full-featured as other Amiga programs that focus exclusively on making presentations.

Though Helm is essentially a database for all kinds of data, its own database-manipulation features are weak. It's great for building flat-file databases and combining graphics, text, and audio data, but not for sophisticated database manipulation.

The user interface is well designed, with extensive menus and floating icon boxes. Screen objects and resources are manipulated by intuitive combinations of mouse and keyboard commands, and compressed into a single file. The book metaphor works well, and helps software designers to think in terms of organized structures. ►

Additional features include interactive on-line help in pop-up windows; password protection to keep end users from modifying user-created books; the ability to play CDTV audio tracks; and even the capacity to make resizable picture-in-picture video windows with the GVP IV-24 graphics board. Helm comes with five disks of sample books and functional, but not inspired, clip art.

You can distribute your Helm books with the Helmbrowser, which allows those who don't own Helm to run them. In addition, Eagle Tree has placed a full-featured, but slightly disabled Helm demo on all the major networks, thus enabling users to try Helm out to see if it's right for them.

Helm's manual of more than 300 pages is a good technical reference that precisely explains each command. Unfortunately, it's short on making clear how to assemble those commands to create exciting programs. A better index and a tutorial would also be helpful. Users can dissect existing books for clues, but there is no substitute for a comprehensive tutorial. I found fairly basic procedures to be rather elusive when they were not spelled out in the manual. On the plus side, customer support—through both GEnie and supplied directly from the program's creator—is superb.

What To Expect

Helm's strong graphic tools and ease of use notwithstanding, its most pleasant surprise is the compactness of the program and the diminutive size of the books it generates. You can also find many fine examples of Helm-generated utilities and applications on most telecommunications networks.

On the downside, Helm is a little rough around the edges. Despite the vast number of features, not all of them are finely polished. For instance, some books attempt to play MIDI through the user's serial port, but there's no error trapping to detect whether a MIDI device is connected. Also, text handling is limited, and the transitional effects are not always clean and crisp. The biggest drawback is that every Helm book must reside on its own custom screen; you cannot open a book in a window on Workbench or on another screen. Eagle Tree is addressing these concerns for upcoming versions.

Overall, Helm is a sterling example of a good program made better by persistent upgrades from a dedicated designer. Helm puts to shame programs like Hypercard for the Macintosh, which, despite years of funding, cannot handle color graphics and animation and is no match for Helm's graphics tools and simplicity of programming. Despite its modest origins, Helm packs a real multimedia punch.

—Daniel Greenberg

MACRO68 V3.170

The Puzzle Factory, $150

Hard-drive installable.
Not copy protected.
1.3, 2.0, 3.0 compatible.
Accelerator compatible.
Minimum system: 1MB.
Recommended system: 2MB RAM, hard drive.

Assembler for machine-language programmers.

Macro68 is an assembler for the Motorola 680x0 CPU family and its floating-point math coprocessors—the 68881, 68882, and 68851. As a bonus, it ►

also supports the Amiga's custom Copper chip. Produced by the Australian company DigiSoft and marketed in the US by The Puzzle Factory, the latest rendition of this acclaimed assembler is the best to date.

The Supply Side

The package consists of three disks, manual, registration card, and three licensing agreements (one DigiSoft and two Commodore). The disks contain the assembler, linker, profiler, several support tools, and the official Commodore 2.0 assembler. Moreover, you'll find Include files, source code for the examples and supplied tools, on-line help files and hypertext tool, Commodore's Installer, several DigiSoft run-time shared libraries (required in the libs: directory in order to run Macro68 and tools), ARexx scripts, CygnusEd scripts, and a custom font complete with two sizes.

Even though the manual claims that you can invoke the hard-disk Install script from a Shell, I could launch it only from the Workbench. It turns out that the installation procedure is done via a Commodore Installer script; the manual's reference needs updating. Newer features, including that one, are documented on a brief read_me file on one of the disks.

At the end of the Install procedure, you're given the option to modify your user-startup file. However, you will still have to manually edit the file to set up a MAC: assign and a path to the executables. This is not hard to figure out, because the manual explains that you need these, but it does waste time. What's the point of the Install script in the first place?

A significant operational difference that Macro68 offers over other Amiga assemblers is support for the so-called "new Motorola" syntax. In an effort to address commonplace, albeit incorrect, programming practices, Motorola created a new syntax for improved logic and consistency across the whole range of the 68000 family. Most of the changes concern addressing modes and strict enforcement of size extensions. These include (B)yte, (W)ord, and (L)ongword, but no more of the (S)hort variety. DigiSoft supplies the NewSyntax tool to convert old source files to the new syntax. You'll also find Change90, a stream editor that allows you to specify your own set of change and deletion rules to automate the conversion of source files of any form.

Tools Galore

Macro68 assembled all of my older code flawlessly, although some needed conversion. It proved to be source-code compatible with the MANX, SAS, and CAPE assemblers I had previously used, even though some directives such as "section" needed modification. I found the assembler quite fast and able to produce smaller object code than SAS or MANX assemblers. It provides considerable flexibility in customizing its interface. You can alter error messages, register names, and even directives to your liking. Those who like to tweak their code will find nothing here to hold them back.

The program can produce standalone executables or linkable object code. The latter allows you to integrate Macro68 with a higher-level language such as C. The object-code linker format is blink compatible, which is the *de facto* standard on the Amiga. The package even contains the freely redistributable Blink 6.7 by The Software Distillery.

Continued on p. 92.

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♦ All on one card ♦ All at one great price



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♦ Genlock Option $150.00

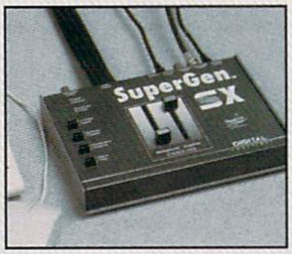
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The SuperGen SX is our newest genlock and overlay system for Amiga computers. The "S" in "SX" stands for S-Video. The new SuperGen SX is a full featured S-Video genlock. The "X" stands for eXternal. The SX is an external device that attaches to any Amiga computer through the RGB port.

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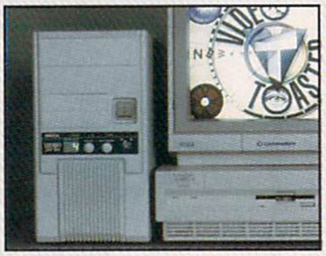
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♦ Four Video Slots! ♦ Three PC/AT bus slots (power & ground only) ♦ 230W switching power supply ♦ Two 5.25" and two 3.5" drive bays

The Video Slot Box is a revolutionary new mini-tower that expands any Amiga A2000, A3000, or A4000 to have four complete video slots, three additional PC AT bus slots (Power and Ground only) for compatible cards such as our Kitchen Sync TBC, room for two 5.25 inch half height devices and two 3.5 inch devices (You can use this room for SCSI hard drives, optical drives, flopticals, tape drives, or anything else that fits.), and a beefy 230 watt switching power supply.

The Video Slot Box provides these solutions:
Use the Video Toaster with an Amiga A3000. Use more than one video slot product in your Amiga. Easily move your desktop video environment between Amigas.



Video Slot Box

The slots in the Video Slot Box are complete video slots with all the capabilities of the video slot within the Amiga. You can place up to four video slot products into the Video Slot Box. A front panel selector lets you choose which product is actually in control of the video slot within the Amiga.

With products that are "video slot masters" such as the Video Toaster or a genlock, only one of them can be active at a time. The video slot box allows you to easily switch instantly between several such products within one machine without having to ever swap boards.

♦ Coming Soon

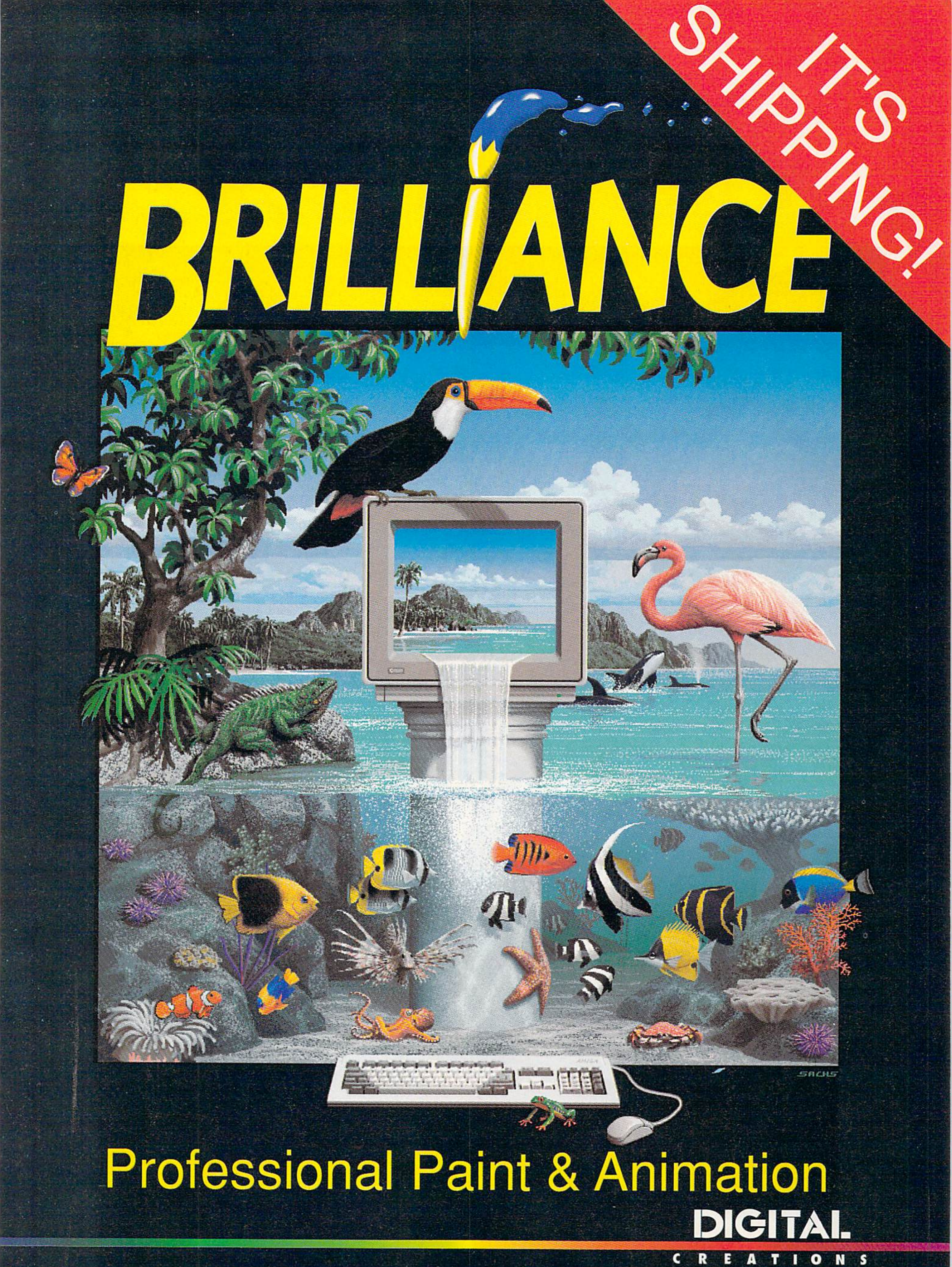
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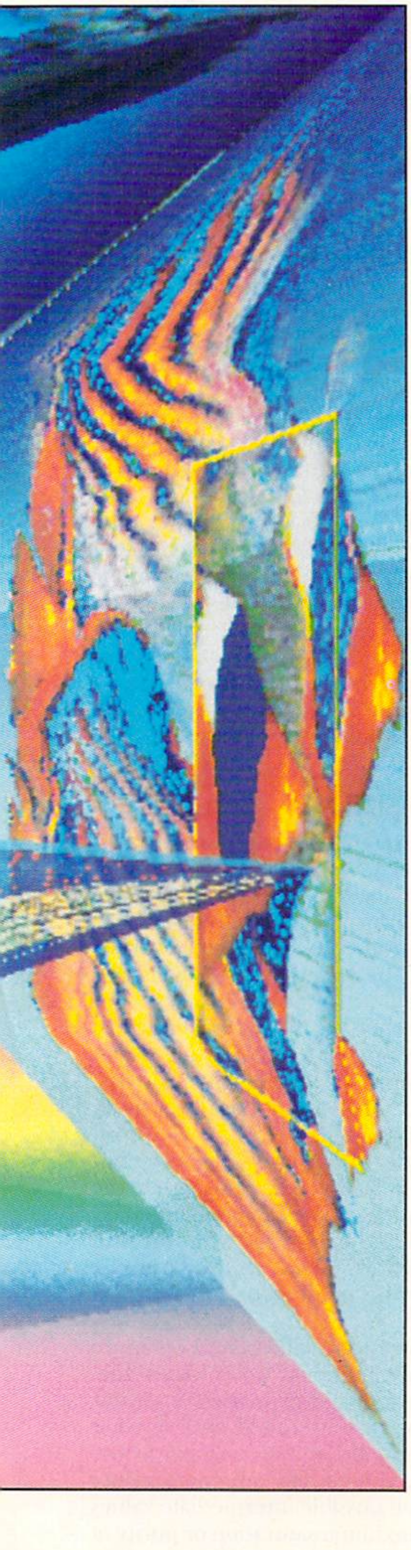

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CREATIONS

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ives On Paint



A remarkable new generation of Amiga paint programs offers abundant color, resolution, and control. What makes them special? How do they compare? And which one is best for you?



BY PHIL FITZPATRICK

THE COMPUTER HAS been to the artistic and creative development of our time what the introduction of oil paint was to the Renaissance. Perhaps, no other invention in history has done more to bridge the visual literacy gap or stimulate the development of high-quality visual tools, creating a new generation of computer artists.

As an artist who uses the computer as a primary mechanism for making art, one of my major concerns is having flexible, professional tools that put me in control of the image-making process. Like most of us do at some point, I have fantasized about finding that ultimate, one-size-fits-all program that will take care of everything I ever dreamed of doing.

Could such a program exist? Perhaps not, but let's take a look at some of the creative options available in a new incarnation of an old standby—DeluxePaint—and then see what some of the popular new software—Brilliance, OpalPaint, Personal Paint, and TVPaint—have to offer. Three of these programs, **DeluxePaint IV (AGA)**, **Personal Paint 2.1**, and **Brilliance**, fall into the category of "stand-alone" programs that require no special hardware for their use. **OpalPaint 2.0** and **TVPaint 2.0 Professional** produce 24-bit images and are "proprietary," requiring special display hardware. (Brilliance is actually two separate programs—Brilliance, a register-based version, and TrueBrilliance, a HAM/HAM8/Truecolor version.)

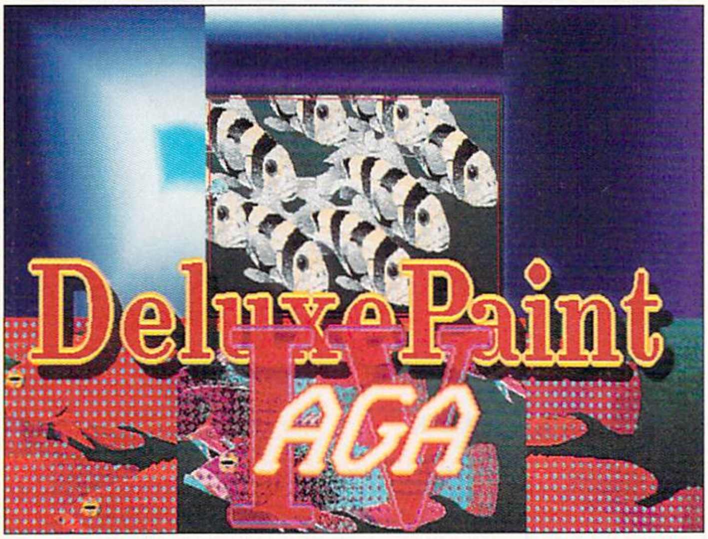
Note that a "comparison of features" chart is included as a sidebar to this piece—and readers are welcome to refer to it at any time. While the main part of the article, too, makes comparisons among the programs, the point is not to present features and capabilities in catalog fashion to see whose list is longest. Rather, we'll examine characteristics of these programs that reveal the different approach each one takes toward the creative process ►

ALL ILLUSTRATIONS BY PHIL FITZPATRICK.

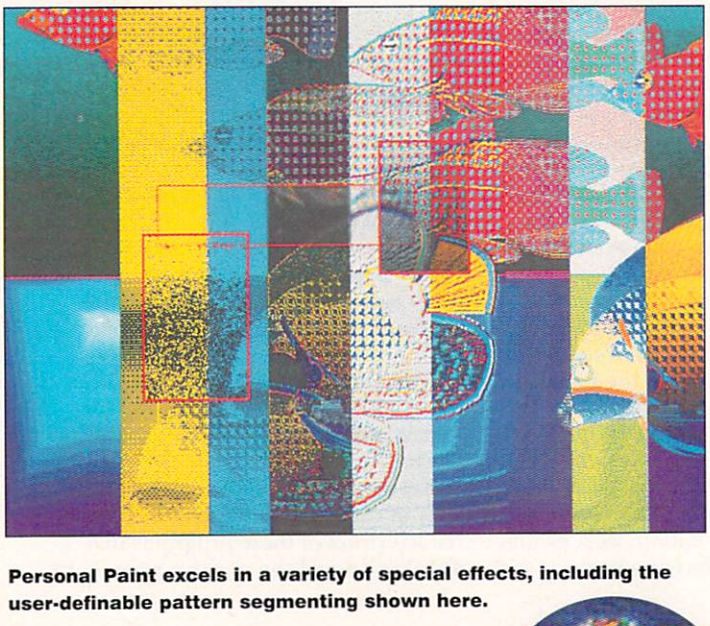
of image making. Understanding the "thinking" behind each program will help you decide which ones might suit your particular needs best. *(Editor's Note: Developers of each product—along with price information—are given in the chart. To contact developers, consult the "Manufacturers'/Distributors' Addresses" list on p. 108.)*

A MATTER OF STYLE

Like the traditional media for artistic expression, which it frequently imitates or simulates, computer graphics software has developed organizational styles. Just as artists organize their brushes and the paint on the palette into the most efficient working arrangement, software tools and processes have taken on certain conventions in their organization and, of course, a successful arrangement is an imitated arrangement. Our five programs can be grouped according to two such basic styles—with a little crossover in several instances.



DeluxePaint IV supports AGA's 256,000-color HAM8 mode.



Personal Paint excels in a variety of special effects, including the user-definable pattern segmenting shown here.

Although its visual style has become a standard model for paint programs on the Amiga, DeluxePaint wasn't the first to employ the concept of a "tool bar" filled with pictorial icons for tools. Yet, because its implementation of the tool bar, pull-down menus, and pop-up requesters provided an optimized organization that has become so familiar, it has been repeatedly emulated. In fact, Personal Paint is virtually a mirror image version of the DPaint IV format, and many of the tools are both visually and functionally similar. This is a definite plus when you consider the learning curve associated with trying to get used to a new piece of software.

Horizontal screens, windows, or panels of buttons identify the second predominant style. The processes are generally displayed as icons, labeled buttons, and control "sliders" arranged in a horizontal tool bar that either expands by stacking segments or overlaying a new display on the old one to provide options. In this setup, individual tools are selected by button press rather than menu. Both of the Brilliance programs inherited this particular design from their predecessor, DCTV. While this style provides large numbers of choices and places a greater number of tools at your immediate disposal, it also tends to obscure large portions of the screen. Brilliance handles the problem by toggling the display on and off, like DPaint IV, with the F10 function key and by using the numeric keypad for hot-keys to operate menu segments. OpalPaint uses an interesting mix of this type of menu arrangement combined with a somewhat newer approach that incorporates tool bars and requesters into localized windows that open from a parent and can be moved around the screen. The creators of TVPaint opted for this last style exclusively.

COLOR ME RGBHSVCMYK

From an artistic standpoint, one of the most significant elements in image making is color control. Theoretical color systems used to create palettes for software programs principally fall into one of two categories—both of which are supported by each of our five paint programs. A third method, CMYK, is also gaining support (see below).

The RGB method relies on mixtures of various amounts of the additive primary colors red, green, and blue to produce all the available color choices. In this case, the primary colors are based on light, not pigments, and the combination of any two produces a light frequency of different intensity than either of its components. For example, open the Preferences palette tool and try mixing equal, maximum amounts of red and green and you will find yourself looking at yellow. Then, if you consider white light as a composite of all colors, I think you will get the picture.

The HSV (hue, saturation, value) method more nearly approximates the traditional "color wheel" theory associated with the pigment primaries. With this scheme all possible hues are arranged, in a circular fashion, around the midpoint of a central axis whose poles represent the maximum and minimum values (white and black) with all possible intermediate values (grays) between. The maximum saturation or purity of





a color occurs along the rim of the hue "disk" with saturation decreasing toward the value "axis." In traditional theory, any two hues opposite each other are said to be "complementary," and equal amounts of both neutralize each other producing a medium gray value.

A third method, CMYK (cyan, magenta, yellow, black), which simulates the "process-color" mixing used in commercial printing and most color printers, optimizes the color on the screen to coordinate with the actual output to the printer and is becoming a frequent and highly desirable alternative for those who do not view the image on the screen as the end product. PPaint's creators obviously have a big interest in this area because they have included a very comprehensive setup for color correction and color separation to the point of establishing screen rotations (used to defeat moire patterns in printed halftones) for the individual process colors, all of which can then be sent to either a PostScript printer or disk file. This is somewhat surprising since it is really more the type of thing you expect to find in serious desktop-publishing software. All of the other programs except for DPaint support the CMYK method in some fashion.

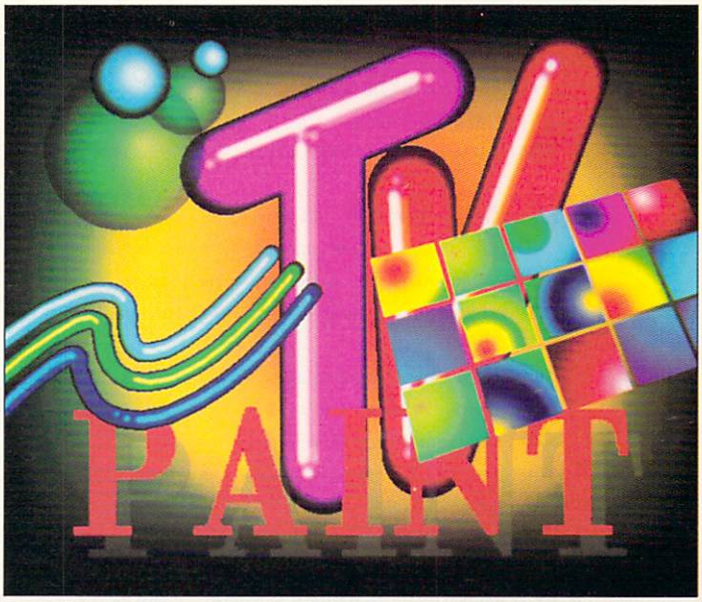
It is important to note that images generated on computer monitors have to contend with an additional element called luminance, which does not translate very well into conventionally printed interpretations. Also, full intensities of extremely saturated colors can cause problems in video applications. Consequently, no matter how much color is available, the capability to adjust the relative hue, saturation, and value of individual pixels, groups of pixels, or entire images at will is of paramount importance to the visual impact of the final product.

Neither DeluxePaint IV nor Brilliance provide any real means of color adjustment or correction after the image is created. PPaint and TVPaint offer fairly extensive adjustments for brightness, contrast, and "gamma" correction (which enables overall brightening or darkening of the image without the noticeable loss that occurs at the extreme high and low ends of contrast adjustments). PPaint also allows wholesale on-the-fly palette adjustments selected from a possible 16 million colors. The effect is something like visual mood swings. The most extensive color control is available in OpalPaint. It supports not only brightness, contrast and gamma correction, but also includes a loadable module that provides a histogram; unlimited freehand manipulation; creation and importing of the color maps; and color "morphing" from the imported color maps to the existing colors of the image. All of these functions can be applied locally or globally to modify the color structure of an image.

How Much Color Do I Need?

As important as it is, can you have too much color? Anyone is bound to get an adrenaline rush the first time he or she encounters the seamless elegance and luscious color potential of 24-bit rendering. After that initial moment of lust, ask yourself this: "What am I going to do with it?" If you use your Amiga as a professional tool with broadcast-quality video, high-end printing equipment for publishing, audio-visual preparation and presentations, or computer simulations—then this kind of rich color potential is probably just what your work demands. If not, you may want to think twice. You could end up indulging in an expensive hobby because 24-bit paint programs are proprietary and require specialized video hardware like the OpalVision Main Board or Retina board (both of which represent a nominal investment as 24-bit boards go—other boards can run $2500 and up). Remember, once you break through the low-resolution boundaries for maximum color (imposed by the older chip set), the quality of color rendering, modeling, and shading makes a quantum leap even in the register-based modes that now support 256 colors as opposed to the former 32 colors.

There is no way to discuss proprietary 24-bit software like OpalPaint or TVPaint without some reference to the actual hardware constraints of each one since this has an impact on the way they are used. OpalPaint comes bundled as part of the OpalVision Main Board package and is exclusive to that system. TVPaint, on the other hand, is designed to function on more than a half dozen different video boards. In my examination, it was used with a Retina board—



TVPaint sports excellent gradient-fill and airbrush tools.

which is purely a display-oriented board that has either a two-meg or four-meg VRAM (Video RAM) option designed to interact with the entire computer system, providing Workbench emulation and a wide range of user-configurable display modes, all tuned to the type of monitor attached. Because of this arrangement, the size of TVPaint's display is determined by the user from a menu of possible screen modes before the program is run, and it is not dependent on chip memory.

OpalVision is intended as a multifunction board that, because of its modular nature, makes it possible to add on video-processing and special-effects expansion without bankrupting yourself. The Main Board (required for OpalPaint) includes a fixed 1.5- ►

Features Palette

Program	Brilliance/TrueBrilliance	DeluxePaint IV AGA	Personal Paint 2.1	OpalPaint 2.0	TVPaint 2.0 Pro
Manufacturer	*Digital Creations*	*Electronic Arts*	*Haitex*	*Centaur*	*MacroSystemUS*
Price	$249	$199.95	$98	$699 ‡	$599.95/799.95 ‡
Screen modes supported [1]	E, H, AGA	E, H, AGA	E, H, AGA	24-bit	24-bit
Screen sizes supported [2]	All +	All +	All	VRAM +	VRAM
Animation features [3]	B, M	B, M, L	None	Ext	None
Multiple Undo/Redo?	Yes	No	No	No	Yes
Multiple brushes?	A	No	Yes	Yes	Yes
Perspective draw functions?	Partial	Yes	No	No	Yes
Special effects [4]	ANIM	ANIM	C, U, PR	C, FX	C *
24-bit rendering?	Partial **	No	No	Yes	Yes
Bezier curves?	Yes	No	Yes	No	Yes
Text manipulation/rendering	Good ***	Fair	Very good	Good	Good
ARexx support?	No	No	No	Extensive	Extensive
Documentation	Good	Excellent	Excellent	Excellent	Poor
Dongle? [5]	Yes	No	No	No	Yes

KEY:

1 E = Standard and ECS (A500, A2000): Register based (32 colors, halfbrite).
H = HAM6 (4096 colors).
AGA = AGA support (A1200, A4000): Register based (256 colors), HAM8 (256,000 colors)

2 All = All standard, ECS, and AGA screen modes: low, medium, and high resolutions plus overscan. AGA modes may also vary depending on monitor and/or video hardware connected.
\+ = Scrolling page sizes larger than visible screen area.
VRAM = Size limits determined by video hardware. Screen and page sizes can be independent.

3 Ext = Animation is implemented through external module.
B = Animated brushes. Brilliance supports multiple ANIM brushes.
M = Shape morphing from one brush to another.
L = Light Table feature allows you to see preceding cels.

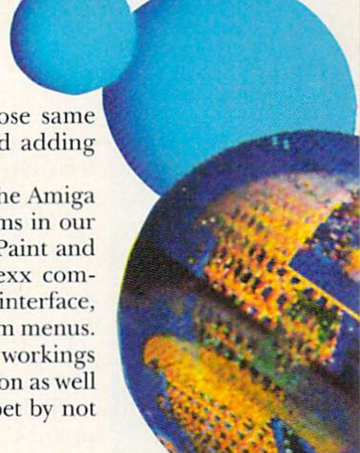
4 ANIM = Special effects are primarily related to animation functions and indirectly associated with normal drawing tools.
C = Special color effects.
FX = Special effects functions, convolutions and/or loadable modules.
U = User-defined functions possible.
PR = Special printing support.

5 Software requires a hardware dongle in addition to any video-display card that may be necessary.
‡ Software bundled with display hardware, not sold separately.
* TVPaint's airbrush tool is an unusually complete implementation.

** Brilliance employs perspective as part of its animation package, but not as a separate tool. However, perspective can be made to work in a single frame as with DPaint IV. It can also load and save 24-bit images (TrueBrilliance) and maintains a 24-bit buffer, though it cannot display 24-bit images.

*** Text kerning available.

Software listed in blue requires proprietary video hardware. TVPaint works with more than one video board.



meg VRAM, which is sufficient to provide two full-size (736x476) video frames for double-buffered animation playback or a user-defined scrolling page size much larger than the visible screen. With a hard drive, OpalPaint makes possible a virtual-memory option so that spare screens and brushes can be stored and retrieved from the hard disk as needed. Combine virtual memory and scrolling page size, and you can produce some outlandishly large and impractical images.

Bells and Whistles Department

All paint programs, no matter how sophisticated or whether they are stand-alone or proprietary, have a number of standard features. The basic tool set universally consists of dotted- and continuous-free-hand line drawing; straight and curved lines; area fill and airbrush; outline and solid geometric shapes (circles, rectangles, ellipses, polygons); text and area clipping; and local magnification. Even these stock items can be improved and one of the nicest enhancements in Brilliance, PPaint, and TVPaint is the use of Bezier curves, a function which greatly enhances the process of drawing smooth, controlled, compound curves—doing the job in a single pass rather than by approximation with combinations of several arcs. Similarly, Digital Creations added some nice touches to the Brilliance airbrush tool, which can actually employ clipped brushes as masking shapes.

The ability to shape your own tools or design your own special effects is always desirable; while the term "convolution" as applied to graphics software is really a pretty fast and loose interpretation of Webster's definition, it represents a unique contribution to several of our sampled programs. Fundamentally, it involves a set of predefined or user-defined matrices that then perform a variety of edging, texturing, patterning, and special-effects manipulations within the image. The results can be pretty exciting and sometimes wholly unexpected.

DPaint IV still clings to its same size, dual-screen format, but screen modes or "environments" of different resolutions and configurations can be used concurrently with PPaint, OpalPaint, and TVPaint. With Brilliance, although each buffer has to have the same color and resolution settings, multiple spare buffers limited only by available memory are supported.

OpalPaint does furnish an external module called OpalAniMATE as a means for assembling animations, but only DPaint IV and Brilliance offer a direct, interactive capability for creating animation—which is, perhaps, their greatest single selling point. The array and implementation of animation tools available in DPaint has always been impressive—from its automated movement menu to its animated brushes, which can be treated just as any other drawing tool. When morphing, or shape transformation from one state to another, became all the rage, it was already a part of DPaint IV and is currently available at full screen sizes in the AGA version. Add a LightTable mode (familiar to traditional cel animators) for controlled positioning of animated characters on a background, and it represents a formidable tool—but it faces some stiff competition from Brilliance. Most of the choices available in DPaint IV are implemented almost exactly the same way in Brilliance, making the transition extremely easy, but some of those same choices are more comprehensively handled adding an extra measure of control.

ARexx has become a household word in the Amiga community, but only two of the five programs in our group offer an ARexx interface. Both OpalPaint and TVPaint have extensive collections of ARexx commands for program control, and TVPaint's interface, including parameter passing, can be run from menus. Even though it is not essential to the primary workings of paint software, those that support animation as well as the standard features may be missing a bet by not building it into the scheme of things.

Will Your Hardware Support the Software?

Whether you are brand new to using paint programs or thinking about upgrading what you already have, there are some fundamental things you need to consider when deciding what to look for in a paint program. Most of these things are operational, but they can have a profound effect on the quality, characteristics, and degree of professionalism in the images you make. For instance, some packages, like DeluxePaint IV, may be painfully slow when used on non-accelerated computers in HAM mode at greater than the lowest resolutions available. This is especially true with computationally intensive processes like highlight gradient fills. If you have a high patience threshold; this may not present a problem, otherwise it can be a real headache.



OpalPaint offers extensive color control and color manipulation, as this sampler of color effects demonstrates.

Floppy-disk users need to be especially selective. Most of the programs discussed here can be run from floppies (OpalPaint requires a hard drive), but not necessarily with any degree of efficiency. While PPaint is a modest 220K in size, the other programs range from approximately 400K for Dpaint IV to almost 600K for TVPaint and each of the versions of Brilliance. What this means is that if you add a few extras to the program disk, you most likely can't use it as a boot disk ►



and will end up doing a lot of disk swapping. Be certain you have enough memory to use the software effectively. Most vendors specify a minimum requirement—which generally is just that! TrueBrilliance, with its 24-bit buffers active, can grab off quite a sizeable chunk of free RAM.

Before you make a buying decision, seriously consider what your system configuration looks like. Frankly, you cannot have too much hard-disk storage, RAM, or computing horsepower; realistically, however, most of us have limits to our budgets and have to find the best compromise. What is the best compromise? From my experience, the minimum, general-purpose setup would look like this:

- A 120MB hard drive. This provides sufficient room for the operating system and other software and a fair amount of storage for images and animation. If you have less than this, you will spend a lot of time moving things off the hard disk to make room.
- Four megabytes of RAM (more is better). Most packages can function quite well with this and can multitask with little or no strain. If you do not have a one-meg Agnus chip, you will most likely be in trouble since that amount of chip RAM is a pretty standard requirement.
- An optional accelerator (68030/68040) and FPU (68882). While this is an optional item, the significant improvement in performance makes it well worth placing it high on your priority list.

If you do not own an Amiga with the new AGA chips, you will not be able to take full advantage of some of the features available on the new and updated versions of available software packages. While this may render some of the more interesting features of a program less useful, it is not necessarily a handicap. Both DeluxePaint IV and TrueBrilliance provide full HAM (six-bitplane) support at resolutions up to 320x400 interlaced (more with overscan), and TrueBrilliance still maintains its 15-bit/24-bit buffer capability so that even if you can't see it, you can generate 24-bit color images. Likewise, DeluxePaint IV, Brilliance (register based), and Personal Paint provide full support for 32-color and Extra_Halfbrite on non-AGA machines. Integrate combinations of PPaint's image processing and special effects to produce a rich array of patterns, textures and color tricks (see illustration on p. 28 for an example), and you have added another dimension to any image—which is especially useful in overcoming hardware limitations.

WHAT'S THE BEST BARGAIN?

Strictly from the standpoint of price, stand-alone paint programs are the best value for general usage by most anyone, especially those unfamiliar with the workings of graphics software. None of the three stand-alones looked at here represent an expenditure of more than modest proportions in terms of today's software costs. The biggest differences in using them effectively are really determined by hardware not the programs themselves. For A500 and Amiga 2000 owners, whether you are a beginner or occasional user and want to sample the widest variety of tools without investing in hardware upgrades, then the venerable DeluxePaint IV still offers an excellent overall bargain. Amiga 1200 and Amiga 4000 users have a bigger choice. TrueBrilliance offers most of the same features as Deluxe Paint IV and can be used in HAM6 (4096-color) mode, but if you want to use its 24-bit capability effectively, it really needs the AGA chips and HAM8 to be at its best. The same is true for Personal Paint, which loses 50% of its effectiveness—in terms of color and screen modes—on non-AGA machines.

If you are asking which one should *you* use, the best advice, as always, is look at what your needs are and, better yet, what they will be down the road. To determine what type of paint program might be best suited to your needs take a look at the feature-comparison chart (see "Features Palette, " p. 30) to get an idea of what kind of options you can expect to be able to put together. Then pull out your back issues of *AmigaWorld* and look up the product reviews on each one for details about specific tools, processes, strengths, weaknesses, and overall performance. At that point you should pretty well be able to decide what programs are most compatible with your needs and goals, and suit your budget; you may also find that using a combination of programs will give you better results and more flexibility.

(Editor's Note: Refer to the following past issues for reviews of these programs: DPaint IV AGA, Jun. '93, p. 68; OpalVision 1.1/OpalPaint, Dec. '92, p. 20, and Feb. '93, p. 77; Personal Paint 2.1, Sep. '93, p. 69; Brilliance, Dec. '93, p. 14; TVPaint 2.0 Professional, Dec. '93, p. 54.)

AFTERTHOUGHTS

First, "donglemania": Periodically, software designers have momentary lapses of judgement and try to secure their products by use of a plug-in key, or "dongle," without which the software does not work. Case in point, Brilliance and TVPaint: The dongle is supposed to deter that same mentality that lurks in dark corners writing virus programs and loves nothing better than the challenge of defeating protection schemes. It might have been better if the software companies had just printed "Steal Me!" labels and stuck them on the outside of the packages. It would certainly have been cheaper. As for TVPaint, the use of the dongle really is a question of overkill since the program runs only on a small number of fairly expensive 24-bit graphics boards.

Finally, as a sidelight to this discussion, I think it is worth noting that three of the software packages mentioned here are foreign imports: OpalPaint is from "The Land Down Under"; Personal Paint is from Italy, "Home of the Masters"; TVPaint is absolutely French. The significance in this is the evolution of a new global generation of programmers and software developers that, while it may occasionally reflect the adolescent exuberance that marked American software of a few years ago, offers a fresh face and the promise of greater innovations. ■

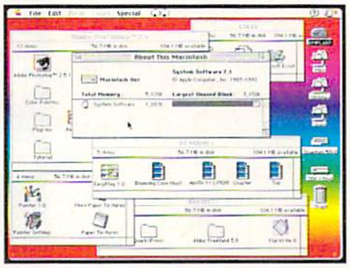
Phil Fitzpatrick teaches art—including Amiga graphics—at Lamar University in Beaumont, Texas. His background is in commercial design and advertising. Write to him c/o ***AmigaWorld*** *Editorial, 80 Elm St., Peterborough, NH 03458.*

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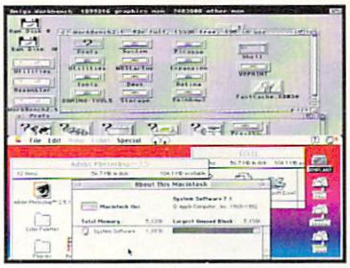
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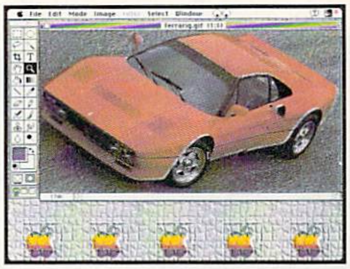
AppleTalk, printer, midi, and modem support can be provided through the two RS-422 serial ports. A high speed SCSI controller allows any SCSI device to be plugged directly into the EMPLANT hardware (including scanners, SyQuest drives, hard drives, CD-ROM drives and more!). The serial ports and SCSI interface can be used by Amiga programs and emulation modules *at the same time!* The EMPLANT hardware is a standard Zorro II/III plug in card for the A2000/3000/4000 (A500/1000 owners need a Zorro Bus adapter in order to use EMPLANT). A PCMCIA version for the A600/A1200 will be available in the near future.



Typical Mac emulation screen.



Multitasking! Just flip or drag down the emulation screen!



Adobe PhotoShop on your Amiga!

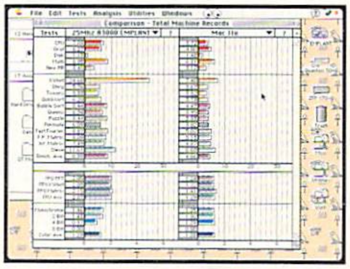
FAST, FULL COLOR, STEREO SOUND, MULTITASKING MACINTOSH EMULATION!

The Macintosh emulation is a 'generic' Mac, with speed based upon what Amiga system EMPLANT is installed in. An A3000 is equivalent to a Mac IIci, and an A4000 is equivalent to a Quadra 700! **Don't be fooled** by other emulations using old 64K or 128K ROMs, **only 256K ROMs** (or later) provide support for color, stereo sound, ADB devices, and NuBus expansion, all of which are emulated by the EMPLANT hardware and/or Mac emulation module! Due to the magic of the EMPLANT hardware, Mac software that accesses Mac hardware registers directly **will** work!

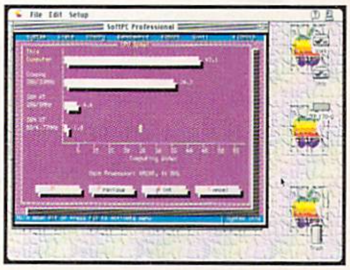
Support for up to 16 colors is provided for non-AGA machines. A4000 owners can use a full 256 colors! Support for Picasso II, EGS-28/24 Spectrum, Piccolo, Merlin, and Retina video boards is **available NOW!** Support for other video boards will be available soon! Imagine running PhotoShop in MILLIONS of colors on your Amiga! Now, imagine being able to 'flip' back to the Amiga side or drag down the Mac emulation screen! The Mac emulation (like all emulation modules being released for EMPLANT) fully ***multitasks*** with the Amiga! Now, install one of the above mentioned video boards and imagine the ability to play double-size QuickTime(tm) movies (with full stereo sound) FASTER than the equivalent speed Mac! The Mac emulation module *requires* an accelerated Amiga - 68020, or a 68030/68040 w/MMU) and 256K Mac ROMs (not provided).



24 bit video board support!
(Picasso II video shown)



"Speedometer" comparison.
(A3000/EMPLANT vs MAC IIx)



Run PC software on your Mac!
(SoftPC Pro 'SI' rating shown)

FUTURE EMULATIONS!

Since the EMPLANT's hardware is so versatile, a completely different computer can be emulated by just changing the emulation software patch and the ROM(s). Apple][/+/e, Mega ST, IBM AT (386/486), C64/128, Atari 400/800, and even game machine (Genesis/SNES) emulators are planned in the near future...EMPLANT is not limited to a single emulation!

PRICING

BASIC EMPLANT system - Emulation hardware and software - $279.95
OPTION 'A' - BASIC EMPLANT system with dual high speed serial ports/AppleTalk support - $349.95
OPTION 'B' - BASIC EMPLANT system with high speed SCSi interface - $349.95
DELUXE - BASIC EMPLANT system with both serial AND SCSI options - $399.95
Shipping & Handling - $10.00 per order (All orders shipped via UPS Blue/2 day service)
C.O.D. Fee - $5.00

All EMPLANT packages described above come with Mac emulation software and necessary device drivers. ROM(s) are not shipped with this product. Sources available upon request.

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GRAPHICS TO GO

Looking for ready-made images, objects, textures, or backgrounds?

Check out the latest collections in this Clip-Art Buyer's Guide.



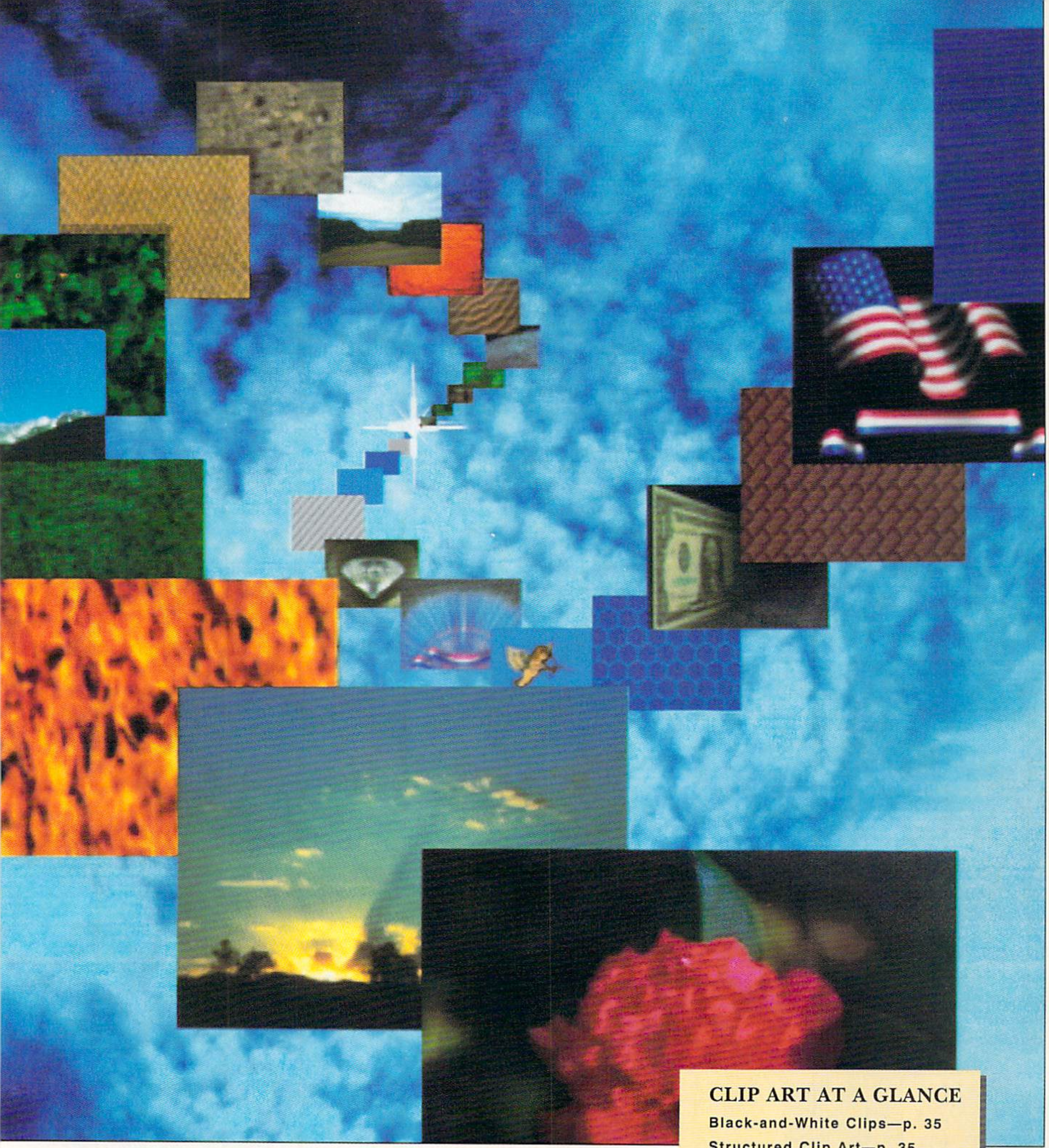
From the numerous responses *AW* received to its first clip-art roundup 18 months ago (see "Art in an Instant," Jul. '92, p. 30), it's clear that ready-made images, textures, backgrounds, and the like are very popular and highly useful. For that reason—and because quite a few new collections have been introduced in the interim—we are updating the clip-art scene with another buyer's guide feature. While many of the packages presented last time are still available, this survey focuses on new (or updated) offerings.

Packages are grouped in nine categories (see the "Clip Art at a Glance" box for headings). Some categories have seen very little activity since last time, while new products abound in others. Developers have been busy in the areas of 24-Bit, Textures, and 3-D Objects, but there is almost nothing new among lower color depth images—primarily because the demand is so low.

One of the biggest changes, however, is the increasing popularity of CD-ROMs, making it possible to distribute large numbers of images at very low costs. Most CD-ROMs use the standard ISO-9660 format, so you can use discs created for any computer directly on your Amiga, which is helpful because there are a lot of clip-art CD-ROMs for the Mac and PC. Most images will be in either PICT or TIFF format, which Amiga image processors can convert to IFF. While I've seen no use restrictions on any of the Amiga CD-ROMs, make sure you check this out before you buy any of the others—some are very restrictive in how you can use the images.

As before, my ratings are based on how well I feel the product achieves its intended purpose. (I sought additional input from qualified artists where I thought it useful). Five-star (★★★★★) products are those I considered extremely good, four stars (★★★★) mean it is a solid, professional package, and three stars (★★★) denote that the collection is good but that I found some problems or limitations with it. Products rated lower than that were excluded because they did not warrant a recommendation as useful. *(To contact the developers of products presented in this article, consult the "Manufacturers'/Distributors' Addresses" list on p. 108.)*

BY GEOFFREY WILLIAMS



CLIP ART AT A GLANCE

Black-and-White Clips

As a format, black-and-white bitmapped clip art has all but died out on all of the platforms. Most users want color, and line art is much better handled as a structured object than as a bitmap. There are some new products in this area that claim hundreds of images, but the ones I have seen are unbelievably dreadful. Two collections we mentioned last time still have their uses: Pic Magic—now called **Artographs** and available in seven sets in both EPS and IFF formats—$34.95–$99.95 each from ***Joe's First Company***; and the ***Softwood*** **Classic, People, Collectors, and Animal** clip-art packages—$39.95 each. But there is not likely to be much future demand in this area.

Structured Clip Art

This is an area that should have seen more growth, but has been sabotaged by Amiga developers who did not include support for structured clip art in their presentation and paint products. Of these, only Oxxi's Presentation Master can load structured EPS (Encapsulated PostScript) files. Currently, both ►

Professional Page and PageStream can load and print EPS files, but only PageStream saves them as IFF images and allows editing. You are better served by turning to the vast amounts of EPS files available for the Mac and PC than to Amiga-specific packages; there are very good CD-ROMs, full of usable stuff, that offer both better value and more variety.

Amiga Computer Art
Soft-Logik Graphic Library
$125
★★★
I mention this because these images are not available for other platforms. Of use primarily to those designing Amiga catalogs or user group newsletters, it has everything from all of the Amiga models and CDTV to printers and other peripherals. The 72 images are nicely drawn, but they are of limited interest.



Figure 1. 24-bit clips. Clockwise from top left: Texture City (spiderweb), Pixel Perfect 24 (harbor), Electric Crayon Anniversary Series, Pixel Perfect 24 (bars for titling).

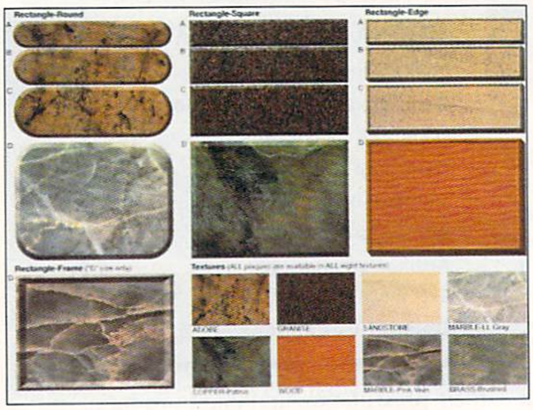


Figure 2. Plaque Grounds from Kara Computer Graphics offers a wide variety of realistic, beautifully textured 24-bit plaques.

HAM and 16-Color Clips

With the introduction of AGA, and an almost universal 256-color standard as a minimum on all computer platforms, don't expect to see any new 16-color or HAM clip art. Many of the older collections, such as ***Digital Designs Group's*** **Video Backgrounds** ($39.95 each) and **Worldwide Maps** ($49.95 each), can still be used, and under AGA they can be combined with text and other images that would have exceeded the older palette limitations. You can also fix images with troublesome aspect ratios, such as ***Slide City's*** 352x480 **TV Graphics** backgrounds ($49.95), by image processing them into hi-res, 256-color.

AGA Clip Art

There is almost no clip art geared specifically for the new AGA market. However, any number of 256-color images are available in the PC world, and those created in the PC version of DeluxePaint will load directly into DPaint AGA.

One Amiga package, though, is worthy of note here in this section:

Pro Fills
JEK Graphics
$49.95
★★★★★
The latest release, volume 3, has the same excellent interface for transforming the included 139 pattern and texture brushes into full-screen images in a selectable size using either eight or sixteen colors. Of the 87 included palettes, 27 of them are specifically designed for AGA, taking advantage of the full range of colors available. The manual is great, with lots of advice and suggestions on how to use the generated images with different programs. A particularly good bit of advice for AGA users is to use Art Department Professional's backdrop loader to create an image to composite with the Pro Fill image to create a textured gradient. It also includes a visual quick-reference card. For backgrounds, this is still the best value around.

24-Bit Clip Art

Pixel Perfect 24
Digital Designs Group
$399.95
★★★★★
More than half of the images in this set of 150 24-bit Toaster-resolution JPEG files are backgrounds created by an artist. Besides many nice basic abstract backgrounds with elements such as glass and chrome, there are several with money, patriotic, map, cloud, and film themes. There are a few that I think are unnecessary variations on a theme, but for the most part there is a lot of variety. The scenics are digitized images of clouds, flowers, coastal scenery, buildings, sunrises, mountains, and much more. This stuff looks professional and is useful to those doing video (everything is video safe). The package comes with a series of HAM thumbnails and a JPEG decompressor. The price is high, but this is the best of its type in the Amiga market.

Plaque Grounds
Kara Computer Graphics
$99.95
★★★★★
There are 104 different plaques in this collection in four styles and various sizes (all are 638 pixels wide in heights ranging from 93 to 397 pixels), each created from eight real-world textures. They have a very realistic, three-dimensional look, and they are designed so you can add text and graphics to them for titling. All of the plaques are in JPEG format. One of the problems with JPEG images, however, is that the black areas surrounding an image are not all the same shade of black after decompression, which makes picking them up as brushes difficult. The included decompression utility solves this problem neatly by compositing them with a black outline mask.

Anniversary Series
Electric Crayon Studios
$99.95
★★★★
This is a collection for anniversary videos, presented in five-year increments from the 1st to the 60th. All of the screens have the same basic design—a heart with the number in it—and there is a second version of each with the word "Anniversary" along the bottom. Each is treated with a design appropriate to the anniversary; for instance, the 50th has a metallic gold look, while the 60th has a diamond underneath the number. They are attractively designed, and have a lot of color depth and richness.

TEXTURES

Pixel Perfect 24: Mother Earth's Textures
Digital Designs Group
$399.95
★★★★★

A well-rounded selection of 25 real-world textures with only a couple exhibiting any fuzziness, the Pixel Perfect package also includes the freely distributable ViewTek display program and a decompressor for the JPEG images. It has a lot of variety for such a small collection. Primarily natural stone surfaces, most are on the unusual side, such as black agate, powderstone, and shurtz ridgewood.

Pro-60 #2
Texture City
$99.95
★★★★★

While the Texture City CD-ROM contains the 60 textures from the Pro-60 #1 collection and 40 additional textures in five formats, the Pro-60 #2 collection has entirely new images covering a very wide variety. There are many unusual textures, such as brushed metal, a weathered wooden fence, a boat hull, and a wall with very artistic graffiti. The images were originally shot on film, imaged to PhotoCD, then scaled and processed. This production method seems to provide stunningly good image quality.

Texture Heaven
Asimware Innovations
$89
★★★★

There are 241 wood, 53 marble, 18 scenery, 8 tiles, and 39 abstract 768x480 images in both 24- and 8-bit versions on this CD-ROM. Also included are 135 black-and-white symbols, plus thumbnails of all of the images in 24-bit, HAM8, HAM, and 8-bit. They are of good quality, but I'd prefer to have more variety, and it would help if the files had the name of the type of wood or marble, rather than just a number.

Pro Textures Combo Collection
Visual Inspirations
$99.95
★★★★

This is a combination of all three volumes of Leo Martin's Pro Textures series for a total of 24 images. When I wrote about the first volume, I criticized it for having some problems with clarity and for some screens having a washed-out appearance. The subsequent editions are much better. You can see the difference in the sample images of the textures used as wraps (Figure 4): They look much crisper than those from volume one. There are some nice images here that I have not seen elsewhere, such as fire and alien skin, and they have been made seamless for use as 3-D wraps. If the six images in the original set had been cleaned up, this would have earned a five-star rating without question.

Nature's Backdrop: Stone Surfaces
Infinite Solutions
$49.95
★★★

There are three volumes, each with ten disks, with one Toaster Framestore image per disk. The volumes consist primarily of marble, granite, and slate. While the images look fine, there is not that much variety—you have a lot of disks and not many images. It is convenient, though, to have them in Toaster ►

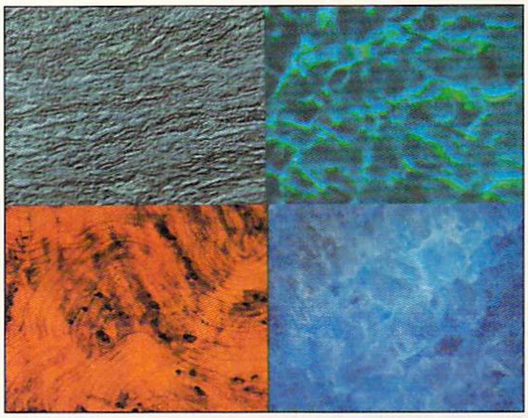


Figure 3. Texture Clips. Clockwise from top left: Mother Earth's Textures (ridgebank blue), Texture City (pool), Pro Textures (crystal), and Texture Heaven (wood).

CLIP TIPS #1: IMPROVING DITHERED IMAGES

MANY CLIP-ART sets were created from scanned images that were reduced to HAM, 16, or 32 colors. While impressive when they first came out, these images—given the current availability of 24-bit and AGA displays—have now become less than acceptable.

There is a way, however, to boost their quality—through dithering, which uses two adjacent pixels to fool the eye into seeing a third color. It occurred to me that with an image processor, it should be possible to recreate the apparent color from adjacent colors when displaying the image in HAM8 or 24-bit.

My first attempt at this was with OpalVision's Opal Paint (Centaur); I used the Smooth Paint option cranked up almost to the top of the range. The results were remarkable. The graininess vanished and the image appeared to have much more color depth. It was hard to tell that it was not a 24-bit image. I next tried GVP's ImageFX, using the Blur option at between 13 and 15. Again, the results were impressive.

If the image has a painted look to start with, it will retain that look after image processing, but with a much smoother appearance. Photographic images will wind up looking incredible. You simply have to try this yourself to see how well it works. Of course, if an area has too much color banding it will not produce good results, but I found this to be a problem with only a few backgrounds, and these were easily cleaned up.

I tested this process with Virtual Reality's Space Visions (246 space-related images from astronauts to nebulae) and with Digital Designs Group's Birds in Nature, Scenery Backgrounds, and Auto Race Thrills. Even the HAM images were dramatically improved. This technique took images that I would not consider using and made them into professional-looking images. □ —*GW*



Figure 7. The picture of astronaut Joe Allen (from Virtual Reality's Space Visions) began as a dithered 16-color image (center). At left, you can see the results of processing with OpalPaint's Smooth Image feature, similar to Image FX's Blur. These processes actually add colors, as the comparison of close-ups on the right demonstrates.

Framestore format, with the numbering above 100.

Animations

It is disappointing to me that there is not more animated clip art available. I suspect, though, that because video can now be captured so easily, we will see moving video clips in HAM8 format before long.

Animattes: Wedding Series Volume 3
Electric Crayon Studio
$59.95
★★★★★
I liked the first volume, and this third volume for wedding videographers has nicely drawn 16-color animations to key over live video. For instance, a stencil reading "Just Married" is unfolded, spray painted on, and peeled off; an airplane with a billowing "Just Married" banner flies across the screen; a flying cupid shoots an arrow made to appear as if it is aimed at someone on video; and there are five others on this five-disk set.

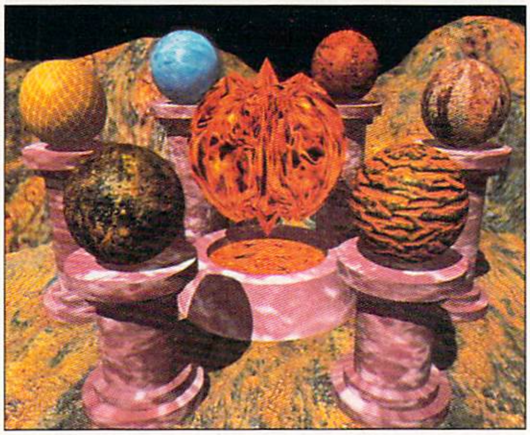


Figure 4. Seamless images from the Pro Textures Combo Collection can be used as 3-D wraps.

3-D Objects

Super3D Models: SciFi
Digital Graphics Library
$99.95
★★★★★
There are four included models for LightWave: a robot, space station, cargo ship, and fighter. They are very detailed and include some very good texture maps to give a well-worn and dirty metal look. The space station is more of a sphere than the traditional wheel shape, and the cargo ship has an interesting and functional looking design. Only the robot has moving parts, but the other objects also come in pieces to make modification easier.

Designer Objects: Diner
Terra Nova Development
$47.50
★★★★★
This collection of objects in Imagine format provides everything you need to re-create a complete diner from the early 1950s. The attention to detail is amazing, and you get everything from donuts to dinettes. You'll find all the items you'd expect to see on a counter, and there's even a beautifully detailed Wurlitzer in the corner (you can see a screen shot of all of these in *AW*'s "Overscan," Nov. '93, p. 12). Simpler versions of all of the objects—to conserve memory and reduce rendering time—are provided for distance shots. Although few users may need a complete diner, the individual parts will serve well in a variety of restaurant and other settings.

Volume 1: Bed and Bath
Volume 2: My Neighborhood
VRS Media
$79.95 each
★★★★★
Each is available in both LightWave and Imagine formats. It's nice to see objects that have practical everyday applications. Think of how many commercials you've seen that use 3-D animation in a bathroom or with the exterior of a house. Bed and Bath has a complete bedroom, including ceiling fan and rocking chair. There are texture maps for the quilt and even images for the pictures on the walls. The bathroom is also quite complete, with both a large tub and a shower. There are even images for the labels on the bottles found on the counter.

Clip Tips #2: Organizing Your Clip Art

UNFORTUNATELY, THERE ARE no decent cataloging programs available for 24-bit images. You can do your own cataloging with a little effort. Image-processing software can be set up to create thumbnails of your images. Using a program such as Commodore's AmigaVision, you can even create an interactive catalog that displays screens of images by category and lets you click on the image you want. Using a simple ARexx command, that image can be automatically loaded into an ARexx-compatible program. It would be great if someone came up with a program that would do all of this easily and automatically. The closest any current product comes to fully automating thumbnail creation are OpalVision, which displays them in the file requester, and ASDG's T-Rexx Professional, which includes a framestore and RGB previewer.

For now, however, start by separating the collections into categories containing subcategories, such as textures with subdirectories for woods, stone, textiles, and so on. If you have a lot of clip art, the best solution for storage is removable media, such as SyQuest cartridges. When you click on an icon in your image catalog, a requester will tell you which SyQuest cartridge to insert.

Compression will dramatically increase your storage capacity. Deep-color Toaster-resolution images converted to 256-color or HAM8 modes come in at about the same size—about 350K. Since the same images compressed with JPEG with no visible artifacting typically come in at around 100K, JPEG is a more efficient way to store images. Because not all programs will load or save JPEG format, you may find that Heifner Communications' Pegger utility is an invaluable tool. It can sit in the background and automatically compress and decompress JPEG images when you load and save them from any program. One tremendous advantage of Pegger is that not only will it automatically JPEG HAM8, DCTV, and Toaster Framestore formats, but also when you load such images into another program, they can be decompressed in straight IFF24 format. Pegger can also be restricted to work only on specific directories.

JPEG, however, does not work on regular and HAM images—but Jumpdisk's PowerPacker Professional will. Like Pegger, it also can batch process an entire series of images. A companion shareware program by Michael Berg called PowerData allows for automatic compression and decompression of all data files as they are saved or loaded from within any program. You can use Pegger and PowerData together, too. PowerData automatically detects JPEG images and leaves them alone during loading, and there is an adjustable filter that can prevent PowerData from trying to compress files with a .JPG extension. You can also use a hot-key to toggle the program on and off. □ —*GW*

My Neighborhood has three home exteriors in colonial, country, and split-level styles. Each house is a single object, including the surrounding picket fence, sidewalk, and yard. Texture maps are provided for everything from the wooden shutters to the sidewalk and grass.

Humanoid
Crestline Software Publishing
$195
★★★★★
This is a dramatic enhancement of the same author's Cycle Man (Imagine) and Motion Man (LightWave). Included are a male and female figure, in either Imagine or LightWave format, that are set up for animation. You can easily morph the faces into realistic expressions (the manual even shows basic talking mouth positions), and the figures can walk, run, and move in many lifelike ways. They represent a tremendous amount of work, and are very detailed and realistic; don't even consider not getting them if you do 3-D work. When you send in the registration, you also get a child figure. Absolutely outstanding.

3D-ROM
Syndesis
$199.95
★★★★
This CD-ROM has more than 500 3-D objects, each in 3D Studio, AutoCAD DXF, Imagine, Wavefront, and LightWave formats. There are also 400 bitmapped images in TIFF, GIF, and IFF formats, primarily for use as seamless wraps. The demonstration models from companies such as ViewPoint and five other respected vendors are all quite good. The majority of the other models come from freely distributable sources, and they vary in quality. Considering the price, you really can't go wrong.

Snap Maps 1: Fields and Foliage
Snap Maps 2: Materials and Fabrics
Anti Gravity Products
$129.95 each
I'm leaving this unrated because I looked at a beta version only, but what I saw was quite impressive. Snap Maps are collections of textures designed to be used to create 3-D objects. The concept is simple: You use color mapping to wrap the 24-bit image onto an object, then, through clip mapping, you use the shape of the image to trim off the excess—much like a cookie cutter. This saves tons of time modeling complex objects. Transparency mapping capabilities are included for 3-D programs without clip mapping.

Fields and Foliage contains grass, leaves, branches, petals, stems, vines, bark, ivy, ferns, and more. Materials and Fabrics includes cloth, wicker, nets, and even fences. You can easily create a photorealistic chain-link fence or a detailed garden, and all the shapes can cast shadows. With some ingenuity, you can easily get stunning results. ►



Figure 5. VRS Media's Bed and Bath offers 3-D objects in LightWave and Imagine formats for practical, everday applications.



Figure 6. Fields and Foliage is one of Anti Gravity's two new "Snap Maps" collections of textures that you can use to create 3-D objects.

Freely Distributable Collections

WHILE MANY OF the commercial clip-art collections presented in the main article are reasonably priced, buying enough sets to build a comprehensive and varied library of ready-made graphics can result in a substantial financial investment. If you don't have the deep pockets to purchase commercial-quality collections—what can you do?

A few vendors specialize in disks of "freely distributable" and "public-domain" software, which they have assembled from various sources. There are, of course, other sources for such graphics, including the commercial on-line networks (GEnie, Portal, and so on) and thousands of user-run electronic bulletin-board systems (BBSs). Using these sources requires that you know what you're looking for, though, and assembling a useful graphics library can eat up a lot of time and money.

For these reasons, we'll concern ourselves here with companies that sell free, nearly free, or public-domain software collections. While many such software vendors exist (you can find their ads in the back of this and other magazines), space limits our discussion to the three major players: Premiere Software, DevWare, and NorthWest Public Domain.

Premiere Software
PO Box 3782
Redwood City, CA 94064
415/593-1207 (voice/FAX)

Long-renowned for selling "P/D" disks with the prettiest labels anywhere, Premiere offers a four-disk set of 2-D clip art for $24. These disks are separated into the fields of Education, Office (two disks), and Christmas/Church. Each disk contains a few dozen black-and-white (one-bit monochrome) hi-res IFF ILBM (Interleaved Bitmap) pictures of various sizes—with very descriptive filenames, such as "Scrooge_with_presents" or "hand_holding_phone". While there are no catalog or thumbnail screens on the disks, there is an accompanying printed listing of all the files.

The quality of Premiere's 2-D clip-art disks is good—the images are all rather large and clean, which means that they would look razor sharp when scaled down for printing. (With bitmapped art, it's always better to start large and scale it down, than to start with small artwork and try to scale it up.) Some of the pictures had what appeared to be artifacts left over from the original scanning process, which you would have to either paint or crop out first. No artist credits appear anywhere, either►

General Collections

Toasty Stuff Collection
Kingsway Productions
$69.95 per set
★★★
Although primarily PD, this collection of five sets, each with 15 disks, offers a variety of items for Toaster users, from utilities to objects, surfaces, and textures. It is a grab bag, but you'll find useful stuff in each set.

Pandora's CD
Optonica
£4.99
★★★
There are 2000 pieces of color clip art, 100 photo images, and a number of textures and sound effects. It's a bit of a mixed bag (although none of it is PD), and a large part of the disc is taken up with multimedia demos of little value because you cannot use the component parts. ■

Geoffrey Williams is president of Creative Business Presentations and a frequent contributor to computer-video publications.

Freely Distributable Collections *(Continued)*

on the disks or in the pictures themselves.

Premiere does not sell any structured clip art. (In fact, neither do the other two companies mentioned here.) And while the company did not send me any samples of its 3-D objects, it did include a long printout of some 28 "Video Toaster Disks" that sell for $5 each or six for $25. Unfortunately, the 3-D objects are spread out over many disks, rather than being put on disks by themselves, so you may end up buying other files you don't need in order to get the objects.

DevWare
12520 Kirkham Court #1
Poway, CA 92084
800/879-0759

DevWare sells two disks of Imagine-format 3-D objects, #VO-006 and #VO-007. The company also sells five disks of 2-D clips—one in color. DevWare's disks are $5.95 each, but the price can go as low as $3.45 each if you buy 30 or more at a time.

While VO-007 is labeled "Star Trek Objects," it contained only three of those: the USS Enterprise, Reliant, and the Ferengi spaceship. The remaining objects were a Porsche 911 and Allen Hastings' old AH64 helicopter model. The "read.me" file said that DevWare "tries to fill each disk to capacity," but, in fact, this disk contained only 647,356 bytes of data, and of that, 610,439 bytes were the actual objects. VO-006 fared much better as it contained 18 Imagine objects consuming over 780K on disk, including such things as an A3000, the Hubble telescope, a synth keyboard, and a huge space station model, to name a few.

Unlike Premiere's disks, DevWare's black-and-white bitmapped clip-art disks contain hi-res IFF screens with many small clips on each (see Figure 8). The idea here is that if you need, say, a desk chair from a screenful of office objects, you load the screen into a paint program, clip out the chair as a brush, and then save it for later import into your publishing or painting project. The quality of DevWare's 2-D clip art varies; some are highly detailed and attractive, while others are very simple line drawings, and, again, you may end up buying some art you don't need or want to get some that you do. For example, Disk WB-047 contains clip art of Animals, Drafting, Hair, Food, and Summer. Disk WB-048 contains Holidays, Music, and Medical themes. Rather odd groupings.

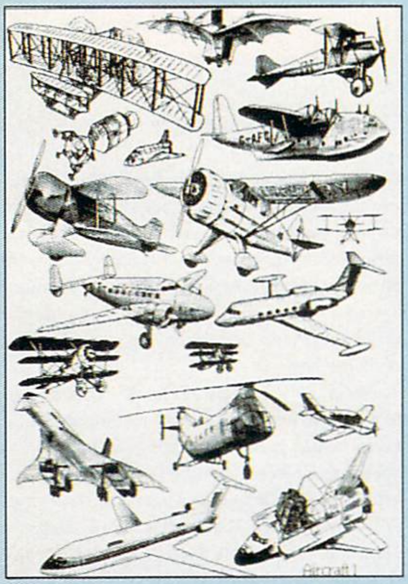


Figure 8. DevWare groups many small bitmapped clips on screens organized by theme.

NorthWest Public Domain
PO Box 1617
Auburn, WA 98071
206/351-9502

NWPD's "Clipart Pack" contains 21 disks and retails for $32. Single disks are $2 each. This is certainly the bargain of the bunch.

One disk contains an indexed list of what's on the other 20—a necessity since none of the disks' labels indicate what's on them. But what is there is very nicely organized. For example, on the Animals disk you will find a subdirectory called Land, and inside of that are more subdirectories named Bears, Cats, Dogs, Horses, and Miscellaneous. The three People disks are broken down into an Anatomy directory containing subdirectories called Eyes, Face, and Hands, and into other directories labeled Babies, Boys, Girls, Children, Couples, Families, Fictional, Men, and so on.

It's obvious that someone went to a lot of trouble to properly sort and categorize these many hundreds of one-bitplane, monochrome IFF ILBM images of varying sizes. Some of the files contain a single image, while others hold multiple pictures that, again, you can load into a paint program and clip and save as brush files.

NWPD did not supply any disks of 3-D objects, but I spotted a couple in its 14-page printed catalog (although you may need a magnifying glass to read the thing). The company did, however, send its "17-Bit CD-ROM," which sells for $70 and for which NWPD claims exclusive distribution rights in the US. The cover letter explained that this two-CD set holds the equivalent of some 1700 .DMS-format floppy disks! (DMS stands for Disk Masher, a program that compresses an entire Amiga floppy disk into a single file.)

Happily, there's an adequate text-indexing file on the CD itself, and by searching it for the word "clip" using INOVAtronics' Directory Opus utility, I located a pair of disks on it called "AMSOFT FONTS" that contain dozens of screens of full alphabets of very spacey-looking typefaces. These can be clipped out and used as colorful brushes for titles or headlines in different projects. Although the 17-bit CD contains mainly "Euro Demos," it does have a huge number of picture disks and potential clip art on it, and I wouldn't rule it out as a good source for such material (although you'll need quite a bit of time and patience to find it).

In summary, Premiere, DevWare, and NorthWest Public Domain offer a mixed bag of products: There is a lot of bitmapped clip art, but 3-D objects are scarce, and none of the three sell structured clip art. Their prices, however, are certainly reasonable—and of course the images are royalty-free, meaning you can use them without having to pay additional fees. None of the collections offer printed visual catalogs, and disk organization is often problematic, but when you buy your software for $2 to $5 a disk, you often have to forsake printed manuals, informational disk labels, and other niceties one takes for granted with commercial packages. □

—Harv Laser

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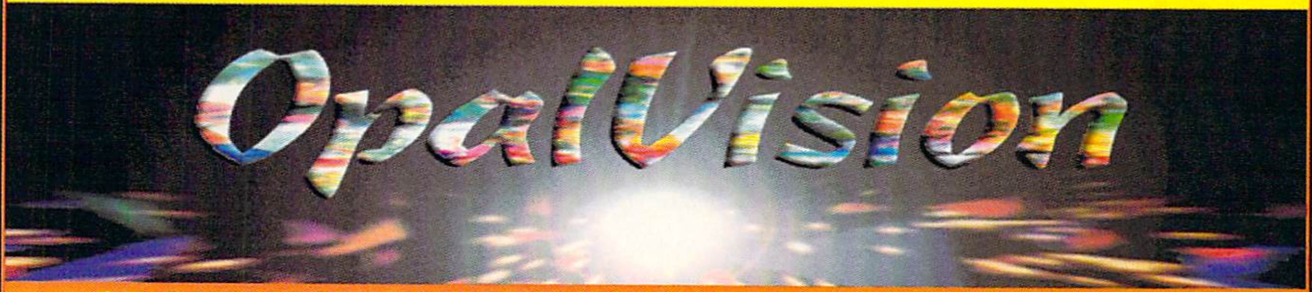
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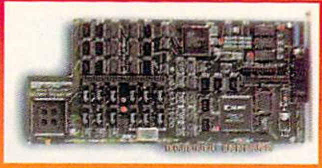
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OPALPAINT SOFTWARE

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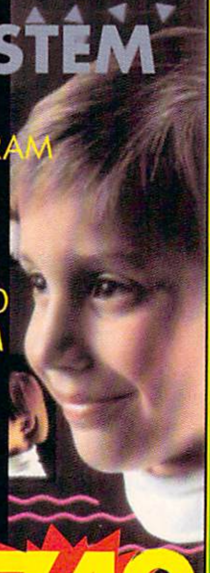
INCLUDES:

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5347 $749

4008 SCSI



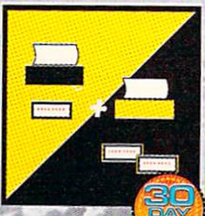
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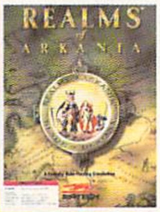
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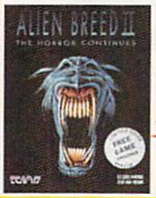
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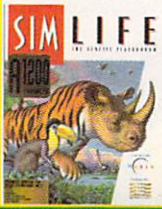
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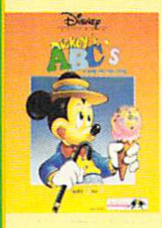
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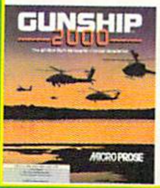
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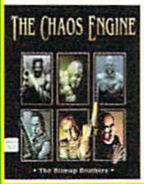
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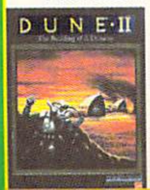
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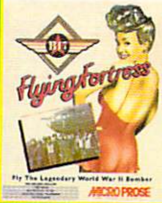
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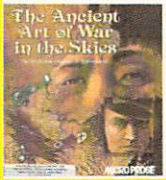
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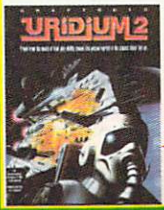
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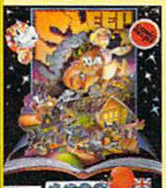
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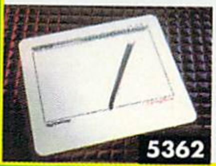
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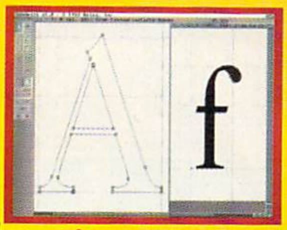
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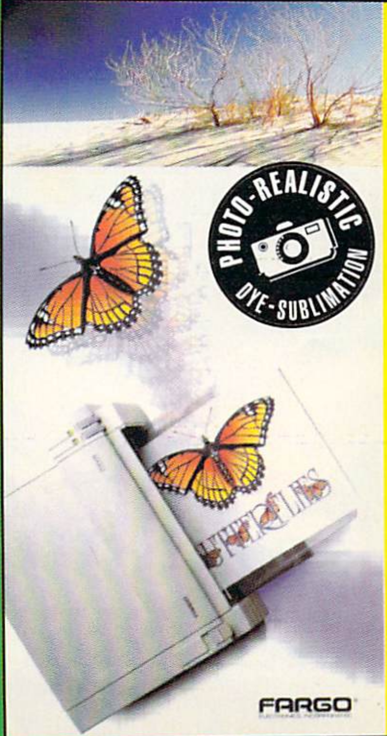


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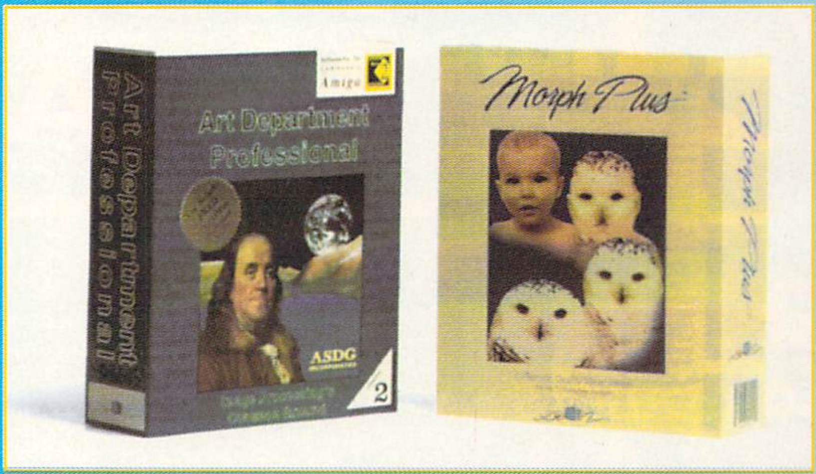
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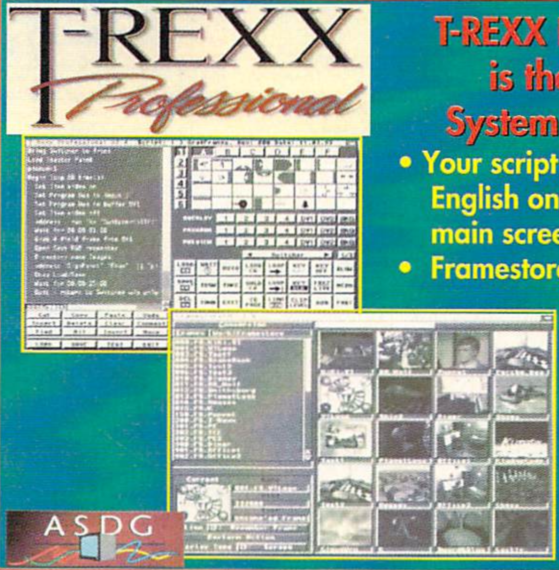
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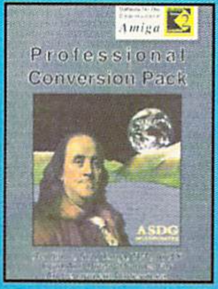
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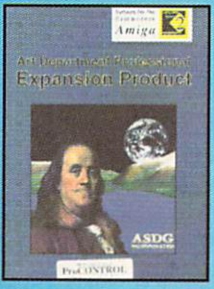


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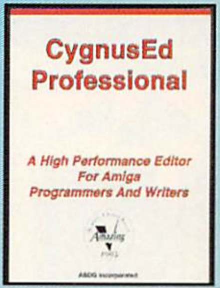


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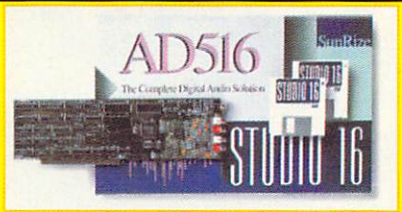


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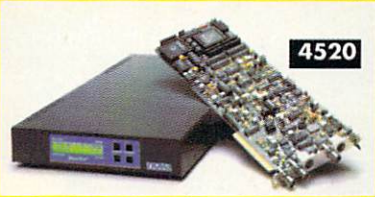
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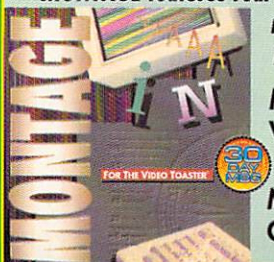


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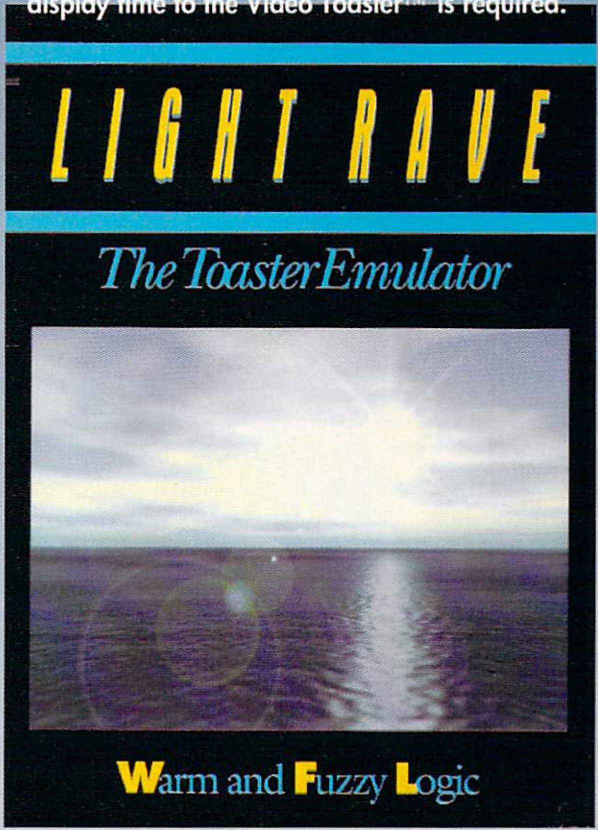


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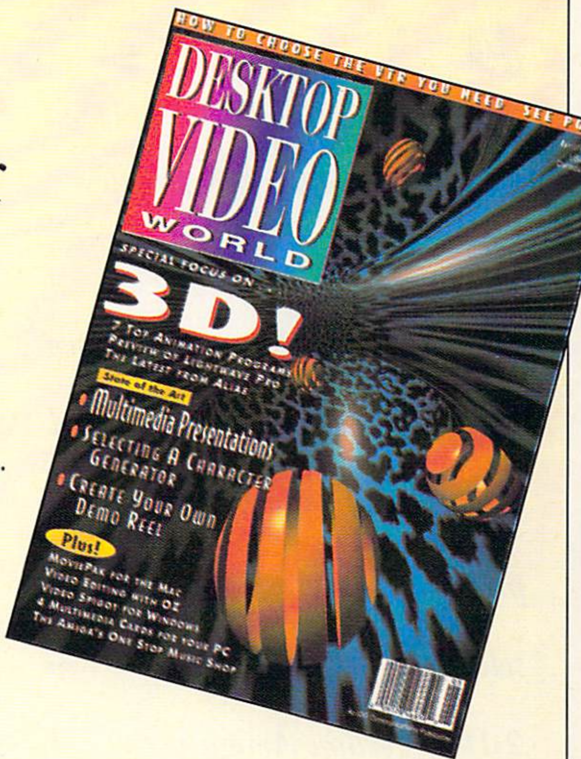
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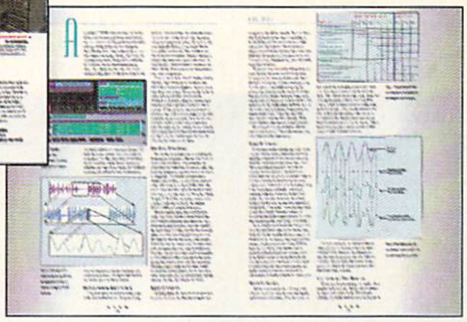
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DIGITAL CANVAS

Because this month's issue focuses on graphics software, we decided to show off what talented Amiga artists can do with such programs. Here is a wonderful selection of images—primarily in 2-D—by fellow Amiga users throughout the country.



ROBERT ANDERSON is a highly acclaimed artist whom you may have seen on a PBS special back around the time the Amiga was first released. The Bloomfield, New Jersey, resident uses the Amiga mainly to create studies for his paintings. His ***Sisters of the Moon***, for instance, is a HAM image that he created using NewTek's Digi-View digitizer and Digi-Paint software, along with Photon Paint from MicroIllusions.

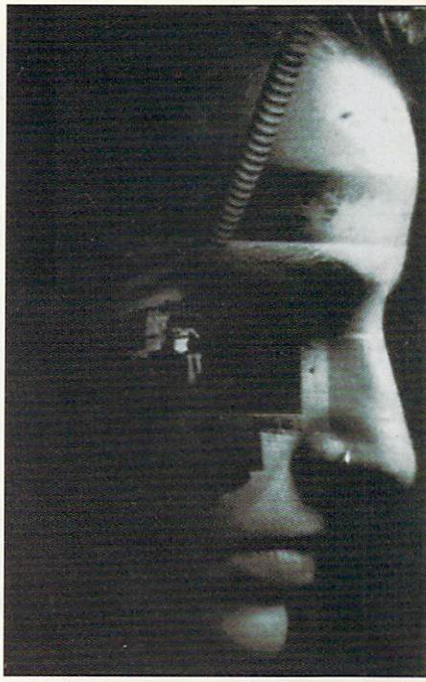


Amiga afficionado **MARC HOFFMAN** used DCTV Paint (Digital Creations) to generate ***Clouds***. The Julesburg, Colorado, artist used a gradient to establish the horizon from the zenith in the sky. "I then blocked in the cloud formations using a solid filled freehand brush, and used the Water function to lay in values to indicate relief in the clouds," he explained. Later, he worked the area over in detail. For the trees, fenceposts, and background structures, Hoffman used a fairly solid brush and some darker values.

DIGITAL CANVAS



GEORGE BAILEY describes himself as "a jack-of-all-trades with an Amiga." In the past he has written Amiga product reviews for *Computer Shopper* and developed Amiga clip-art collections. Since 1985, he's run Slide City, a slide service specializing in Amiga graphics, from the town of DeLeon Springs, Florida. Bailey also makes time to create some beautiful Amiga "paintings," as you can see. ***Sunflower*** is one he created some years ago using Electronic Arts' DeluxePaint.



JEREMY A. ENGLEMAN of Littleton, Colorado, is in his second year of studying for a BFA in photography. He says, though, that his love of computers began long before his love for cameras. Only recently has he begun to blend these two interests; ***Rachel***, a striking image he created from photographs using Digi-View and DeluxePaint IV, is one result. Although he says he's "still wet behind the ears," we couldn't tell by looking at his work!



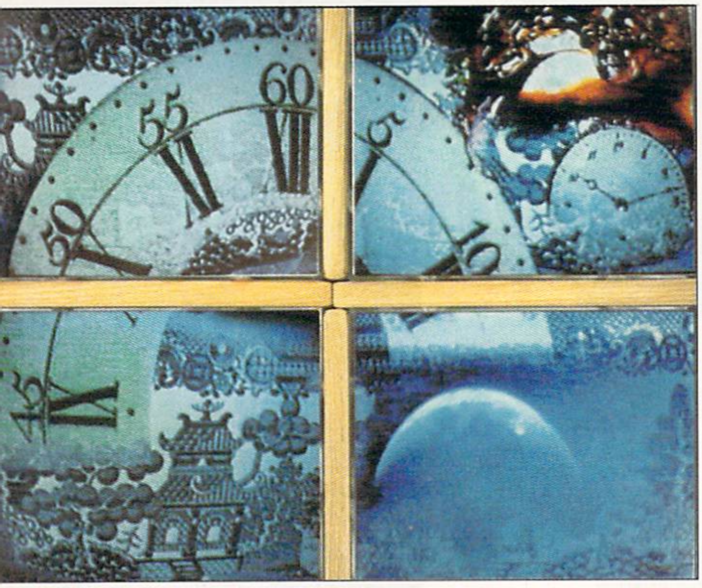
We couldn't resist **MARGARET COPELAND**'s ***Fandancer***, which she created using Impulse's Imagine 3-D software. Copeland may already be familiar to you as publisher of the *Computer Textile Exchange* newsletter. She's a professional weaver from Ashland, Oregon, who says her interest in three-dimensional art stems from working with textiles. "I frequently go back and forth between both media. Curiously, they are very compatible," she says. A veteran Turbo Silver and Imagine user, Copeland also employs such tools as Vertex (The Arts Machine), Lissa (Technical Tools), and Essence (Apex Software) to generate interesting objects and algorithmic textures.

►

DIGITAL CANVAS

Award-winning artist **REBECCA STUCKEY**, a Cummings, Georgia, transplant from New Jersey, has a collection of arts degrees, including a couple of masters in different media. Stuckey is a cross-platform artist: In addition to using a Mac and PC, she does much of her work—including ***Block 3***—on an Amiga 500 using DeluxePaint, Digi-Paint, and EA's Deluxe PhotoLab.



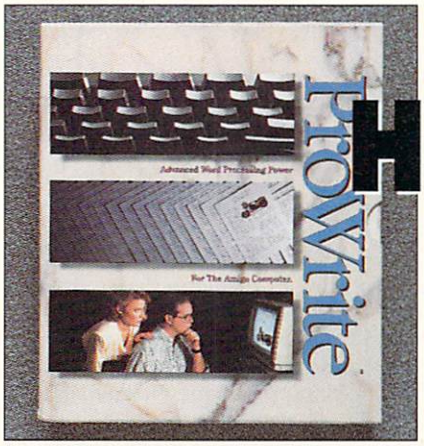


The Amiga "has opened up a new world for my surreal imagination," says artist **SARAH COSTANZO**, the owner of Visions Professional Graphics in Altoona, Pennsylvania. She created ***The Face of Time and Blue China*** by combining scanned images and freehand drawing. She uses a Sharp scanner with ASDG interface software and Digi-Paint 3 on her Amiga 500.



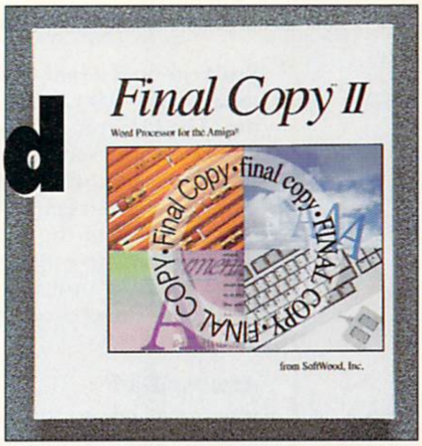
Bedroom Scene is an image you can look at again and again and find something new each time. **ROD BRADFIELD**, who teaches Visual Arts at South Vigo High School in Terre Haute, Indiana, created it using his Amiga 2500. The gray-scale part of the image was scanned from a 3x4 foot charcoal drawing, and the lizard was scanned from ceramic (Bradfield uses an Epson 300SC scanner and ASDG's ADPro). The tank, toy, and other pieces are Imagine models. Bradfield did "lots of touchup and reworking of the charcoal scan" using Black Belt's Imagemaster Pro.

If you'd like a shot at seeing your own artwork in print, send a slide, photo, or printout accompanied by an IFF file (preferably JPEGged at 80-100%) of each submission. Include descriptions of the images, note what software and Amiga model you used, and indicate whether the works have been printed elsewhere before. Pack these things up with a resume or short bio and send them to **AmigaWorld** *Art Submissions, 80 Elm St., Peterborough, NH 03458.* ■



Head 2 Head

Comparative Evaluations of Popular Amiga Programs



WORD PROCESSING

ProWrite vs. Final Copy

By John V. Ryan

WHEN IT COMES to word processing, New Horizon's ProWrite 3.3 and Softwood's Final Copy II stand out as the premier programs for the Amiga. (Indeed, when readers call *AmigaWorld* asking for word-processor recommendations, it is usually these two they're trying to choose between.) Both are exceptional programs that can meet almost any wordsmithing need you might have—either in the home or in the office.

It should be stated up front that this is not a review, *per se*, of the two programs; *AmigaWorld* has already published reviews of several incarnations of each program. Instead, I hope to help you determine which program could work best for your needs. Throughout the article, I will mention prominent features and capabilities of each word processor—as they apply to specific uses. This is not to imply that the opposing word processor lacks whatever function I am detailing. Keep in mind that even though both programs may offer many of the same features, I will highlight the more noteworthy between ProWrite and Final Copy.

System Requirements and Basic Startup

But before you consider features, let's make sure your system can handle these two programs. Unless you use an original Amiga 1000, you should be okay as far as model goes. In terms of operating system, ProWrite has the less stringent requirements, as it will run under AmigaDOS 1.2 or later. You'll also need at least two floppy drives or a hard drive, and at least one megabyte of memory. Final Copy, on the other hand, requires that you have AmigaDOS 1.3.3 or later. It, too, requires that you have two floppies or a hard disk, and one megabyte of memory. As always, the more memory the better, especially when dealing with graphics files—which we'll detail later.

Both programs can boot up into a variety of screen modes, including Hires, Productivity, or SuperHires (which requires AmigaDOS 2.0 and an ECS (enhanced chip set). Both also offer 256-color display to users whose machines support it. While Final Copy will automatically determine your machine's resolution and color capability and present you with screen options on startup, you must manually set ProWrite's startup screen options. This is accomplished via a CLI command line or by editing ProWrite's icon information.

If you were to boot up each program from scratch, ProWrite and Final Copy II would look remarkably similar. Both present you with vertical and horizontal ruler lines. Both include tab, justification, line spacing, and paragraph formatting icons on a handy ruler strip. Once past the similar appearance, the operation and menu layout of both diverge sharply.

First case in point: Since no one likes configuring a word processor each time it's run, one of the first things a user might want to do after booting up is to tailor the program to meet his or her needs and style. ►

Editor's Note: *AW kicks off a new feature this month, "Head2Head," which will appear on a semi-regular basis in future issues. The column presents the latest versions of leading software in key applications categories, comparing strengths and weaknesses and contrasting differences to help you evaluate which one serves your needs best.* ***Next Time:*** *Pro Page 4.1 vs. PageStream 3.0.*

ProWrite and Final Copy both offer a Preferences menu, but Final Copy is, by far, the easier to configure. The Preferences menu of Final Copy II deserves a review unto itself: There is a plethora of options to set ruler values, screen resolutions, window sizes, document colors, screen colors, and much more. Additionally, most of the functions (other than graphics options) that are configurable in Final Copy are presented under one menu, while, by comparison, ProWrite's Preferences options are rather limited and less centralized.

Almost DTP

Because of the Amiga's extraordinary graphics capabilities, many Amiga-based word processors have blurred the lines between word processing and low-level desktop publishing. Indeed, for years now, Amiga word processors have had the capability to effortlessly incorporate graphics and text. Final Copy II and ProWrite 3.3 both offer such graphics capability. Certainly neither program is well suited—nor designed—for high-level, professional DTP applications. But if you're in a pinch and need to design a document letterhead, a flyer, brochure, or small newsletter, then Final Copy should get the nod for the job.

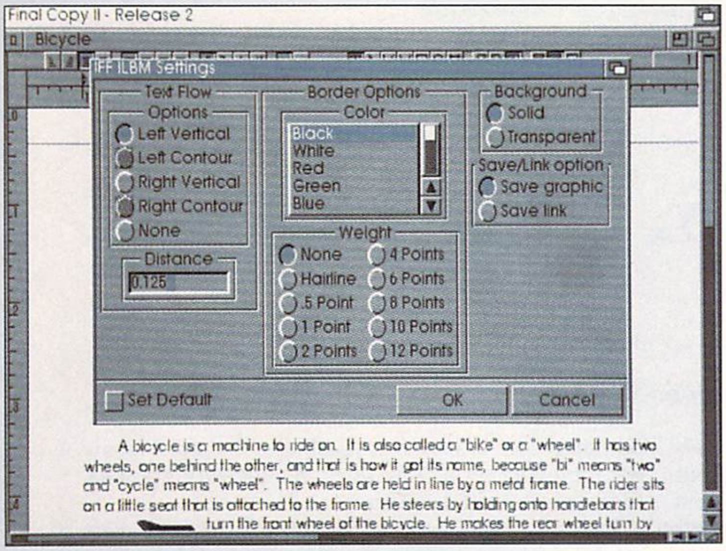


Figure 1. You have lots of flexibility in moving graphics around in Final Copy II documents and in the ways you flow text around them.

Although ProWrite allows you to incorporate graphics and text, Final Copy possesses features that muscle out ProWrite for graphics applications. First, Final Copy offers drawing tools not available to ProWrite users. There are several icons along the ruler line that can be selected to draw lines, ovals, boxes, and more. You can easily size, move, crop, or delete graphic images, and you can flow text around the graphics in a wide variety of ways (see Figure 1). In addition, Final Copy will also read in 24-bit graphics files and render them according to the number of colors available. ProWrite, on the other hand, is limited to eight-bit graphics files.

Of course, mere graphics does not a DTP program make. Besides offering the ability to format text into newspaper-like columns, Final Copy dishes up a feature called "master pages" that allows you to define where text and graphics appear on each page of the document. In other words, you can design logos, graphical headers and footers, page backgrounds, or page borders and have them appear on each page of the document.

No matter how much work you put into a document, the end results will be no better than what eventually comes out of the printer. Font variety, print quality, and PostScript support all play a part in the professional appearance of your project. While both programs offer a wide variety of fonts and excellent print quality, Final Copy, again, seems to have the upper hand in all these areas. Final Copy not only supports PostScript printing, but will also automatically download fonts in your document that are not on your PostScript printer. It also supports PostScript Type 1 fonts, recognized as the industry standard for outline fonts. Final Copy also supports both NimbusQ and Compugraphics fonts (Compugraphic being the Amiga standard outline-font format). In contrast, while ProWrite supports Compugraphic fonts, it does not have the ability to download Type 1 fonts.

Office Works

Word Processing in an office environment is a bit different than for home use. In an office, a word processor must be able to easily and efficiently generate form letters. Moreover, if you receive text files from clients who use different WP programs or platforms, it is imperative that your WP program have the capability to convert or read these text files. Lastly, the word processor must be able to produce hardcopy in a variety of page formats.

Final Copy II and ProWrite 3.3 run head to head in an office environment in many areas, but for ease of use and overall capability, I would again give the nod to Final Copy. Both programs offer merge functions to generate form letters, but Final Copy's is decidedly easier to use, with a smooth and sophisticated merge interface that makes it a snap to generate form letters.

Final Copy II
Softwood
$159.95*

Not copy protected.
Minimum system: 1MB of RAM, WB 1.3 or later, dual floppy drives.
Recommended system: 2MB of RAM, hard drive, accelerator.

* due to be discounted to $99.95.

Likewise, Final Copy's page setup offers many more options than does ProWrite's when it comes to formatting your document for printing. While ProWrite offers US letter, US legal, custom, wide carriage, and A4 (international) formats, Final Copy goes a bit further in offering B5, A3, and A5 (European page sizes). Additional page-setup options in Final Copy include being able to set print areas, edit areas, master pages, headers, footers, and title pages. You can also set the number of columns you want to work with (up to six), and specify spacing between columns.

Where ProWrite excels in meeting office automation needs is in the area of file conversions. Both word processors will read and write ASCII text, but ProWrite is the clear winner when it comes to converting documents from other word processors. A separate conversion utility makes it possible to convert files from Beckertext, excellence!, Final Copy, KindWords, Pen Pal, Scribble! Textcraft and Textcraft Plus, Text Pro, WordPerfect, and IBM RTF formats. Moreover, for offices that have multiuser machines, ProWrite offers a handy password protection scheme that makes it possible to attach passwords to individual documents.

The Writing Life

Whether you are a professional writer or a closet novelist, you need a word processor that is fast and stable, and one that offers a large spell checker/thesaurus and an easy-to-use menu/command structure for cutting, pasting, and paragraph formatting. In the personal-use arena, the lines between ProWrite and Final Copy blur a bit more, for both programs offer just about every option the writer or home enthusiast may need.

Both programs have been around long enough so stability is not an issue, and I have never experienced problems with program crashes with either program. Both are also relatively speedy—at least considering that any time you work with graphics, things tend to slow down a bit. Neither are as responsive as, say, Word Star or WordPerfect in the PC market, and an accelerated machine (with lots of memory) is recommended if you plan to work on large documents or graphics files. On balance, I found Final Copy II to be the more responsive program both on a stock Amiga and on accelerated machines (68030/040), in terms of paging, scrolling, cut-and-paste operations, and graphics handling.

On the other hand, ProWrite's cut-and-paste operations are very user friendly and easier to navigate around than Final Copy's. A few mouse clicks will highlight single words, sentences, or entire paragraphs, while with Final Copy you are forced into the familiar click-and-drag highlight operations. ProWrite's Undo function is fairly smart, remembering and displaying exactly what an Undo will accomplish. Final Copy does not have an Undo function, relying instead on a paste buffer (which won't help you if you accidentally clear the text buffer). Additionally, you may appreciate ProWrite's automatic save feature, which can relieve a few heartaches if you suffer a power outage.

Final Copy II offers a 144,000-word spell checker, while ProWrite's comes in at 100,000 words. Both spell checkers support user-dictionaries and offer suggestions for misspelled words. ProWrite goes a bit further in this area, as it will check your spelling as you type. ProWrite also offers a unique "speech" feature that uses the Amiga's voice capability to speak typed words for visually impaired users (see Figure 2). If you're a wordsmith who requires a large thesaurus, Final Copy may be the program of choice, as it serves up a sumptuous cross-reference of 1.4 million words. ProWrite's thesaurus is limited to 300,000 words.

Final Copy includes an outline function to aid the writer in organizing his or her thoughts. You may also appreciate Final Copy's page-preview function, which allows you to preview documents from 25% to 400% of normal size prior to printing. ProWrite provides only one page-preview size.

WP Wrap

Although I would need several more pages to detail both of these programs' outstanding features (such as ►

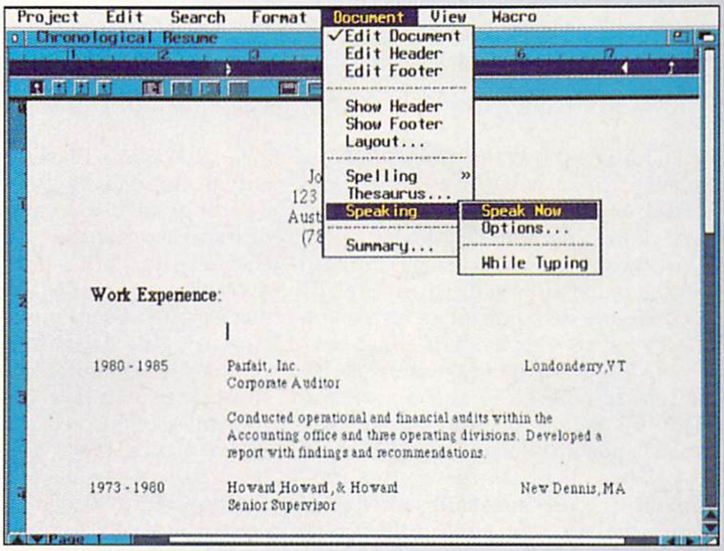


Figure 2. ProWrite 3.3 offers a speech feature to aid visually impaired users.

ProWrite 3.3
New Horizons
$99.95

Not copy protected.
Minimum system: 1MB of RAM, WB 1.2 or later, dual floppy drives.
Recommended system: 2MB of RAM, hard drive, accelerator.

extensive ARexx support, sort functions, clipboard support, ProWrite 3.3's HotLinks interface, and so on), it is clear that Final Copy II is the slicker program of the two. It's faster, with a responsive and good-looking interface. Its thick, spiral-bound manual is easier to navigate around, with good indexing and cross-referencing. Final Copy is far more configurable and flexible than ProWrite, and has better graphics-handling capabilities. It also seems to have the edge in hardcopy print quality, and I consider it better suited for professional/office use—especially with its capability to download Type 1 fonts.

On the other edge of the sword, Final Copy II at $159.95 has until now been more expensive than ProWrite 3.3 at $99.95 (although the former is due to be discounted upon the introduction of Final Writer—see sidebar for details), and it may contain some arcane features that many users may never need. Its learning curve is also a bit steeper than ProWrite's.

As always, the final choice comes down to your particular needs and wallet size. Should you choose Final Copy or ProWrite? Final Copy is all the word processor you'll ever need, with plenty of room to grow into. ProWrite is a good choice for the beginner/intermediate user, or for home use. ■

John Ryan is a freelance writer and computer-based instruction developer residing in Columbia, South Carolina. He enjoys computer animation and desktop video, and dabbles in air traffic control.

Final Writer on the Way

I RECENTLY HAD the opportunity to preview a beta copy of Final Writer, Softwood's new entry into high-end word processing. Initially, this program is not meant to replace Final Copy II, and the latter will not be discontinued, but instead discounted in price (to $99.95) as an intermediate word-processing program. Final Writer (slated for release before the end of 1993 at $199.95) seems to build on the advances made with Final Copy II, and, at first glance, it should make some evolutionary inroads into Amiga word processing that no other Amiga program of its ilk can claim.

Final Writer's lineage is overtly apparent. After booting up, I noted that the program is extremely close in appearance to its little brother, Final Copy II. However, looks can be deceiving: Above the now familiar command strip, there is a new User Button strip that contains roughly two dozen icons and is completely configurable under the Preferences menu so that you can now have your most often-used commands available at a click. Moreover, you can even customize user-menus to activate ARexx scripts, open text clips (blocks of text saved from other documents, such as fax data, name-and-address blocks, and so forth), or execute command strings, among several other things.

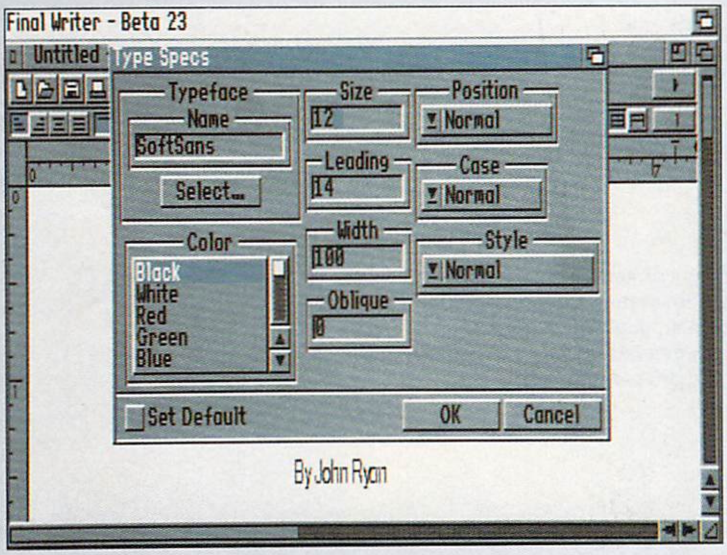


Figure 3. Final Writer's "Type Specs" requester allows you to make numerous, on-the-fly adjustments to fonts.

Also under Preferences, an auto-save feature has been added, along with some of the more familiar (and now upgraded) Preferences items found in Final Copy II. With Final Writer you can sort paragraphs according to textual content, add columns of numbers, merge data fields into the body of the document, insert dates and times—plus perform just about all the other edit functions that were found in Final Copy II.

Accent the Visual

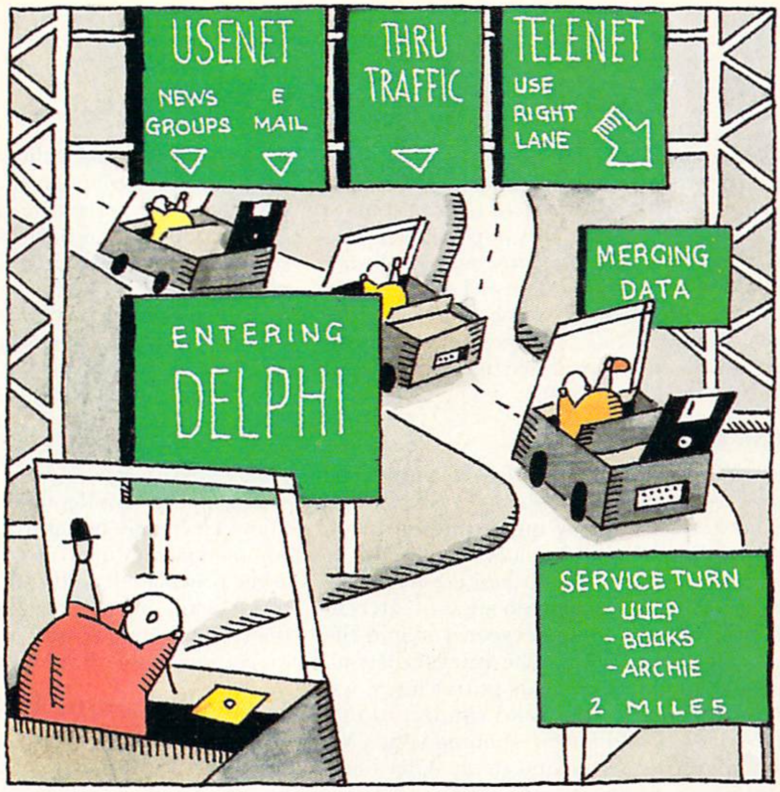
But where this program seems to stand out is in its handling of fonts and graphics. You may specify fonts in any size from 4 to 300 points. Text width can also be specified, as well as text case, color, and oblique percentage (slanting text to the left or right). There's even a "Type Specs" requester that enables you to make numerous on-the-fly adjustments to the look and feel of text (see Figure 3).

Final Copy II was good with graphics and Final Writer appears as if it will be even better. Not only can you import graphics and draw lines, boxes and ovals, but you can also rotate graphics or text blocks. One of its more interesting features is its ability to import Encapsulated PostScript (EPS) clip art and print it without jaggies to non-PostScript printers. You can also import ILBM, HAM, Extra_Halfbrite, or 24-bit IFF images.

Rounding out some of the more interesting features of Final Writer are functions to generate tables of contents, tables of illustrations, indexes, and end notes. There is, as with Final Copy II, extensive ARexx support, plus about 100 new fonts and new capabilities to export documents to a variety of formats. Final Writer will require AmigaDOS 2.0 or later and at least 1.5MB of RAM and a hard drive.

You can rely on *AmigaWorld* to conduct a complete review of Final Writer when the final release version is received later this year. □

—JR



CRUISIN' THE INTERNET

Here's a map of the global telecommunications "data superhighway," complete with the details Amiga travelers need. We'll show you where the Internet can take you, how to access the on ramps, what kinds of tolls you can expect, and more.

WHICH ON-LINE NETWORK connects thousands of universities and high-tech companies, 110 countries and about ten million users, and doubles each year in terms of both users and data exchanged? Which currently shuttles about ten terabytes (that's ten trillion bytes!) of data each month, offers 4600 newsgroups and 130 gigabytes of public-domain files, and allows instantaneous international mail access? Which lets you explore the public-access resources of NASA, the USDA, and the FDA? It's the Internet, the basis of Vice President Al Gore's dream for a "data superhighway," and subject of considerable recent media attention.

So what's the Internet all about? And what does it offer Amiga users? The Internet, which the federal government started (and still subsidizes) in 1969 as a research and educational network, is similar to commercial networks, since it offers many of the same things. But it's big ►

BY ANDY PATRIZIO

ILLUSTRATED BY ROBIN JAREAUX



ger, faster, and in many ways more versatile than commercial networks—and it's potentially less expensive to use. It's also unregulated, making it more enigmatic. For these reasons, it is impossible to cover the Internet in a single magazine article. If what you read here piques your interest, I recommend three books that do an excellent job of covering the whole topic: *The Whole Internet, The Internet Companion,* and *Internet: Getting Started* (see the sidebar "Recommended Reading" for details).

Something Different

Although you can reach the Internet via commercial on-line services (such as CompuServe, GEnie, and Bix), the network is actually quite different from these services. Commercial services require you to log onto the network's computer and use its particular menu system to move between areas of interest. These menu structures come between you and the system, slowing things down. The Internet has no such central computer and, in its purest form, has no interface. Imagine if you could connect to machines all over the world just by opening your CLI, and send mail, retrieve files, and so on. That's how it works. Internet is a network connecting individual machines and small networks. You don't operate within confines—you reach out to the network itself. And it's fast, thanks to high-speed connections between the thousands of systems on the network.

Navigation Tools

SOME TOOLS CAN make the Internet more navigable for those intimidated by its vastness.

Don't like using a command-line interface? You may want to check out the Internet Gopher—even if you connect to the Internet via a system that offers menus. Gopher's interface applies menus to selected Internet resources; it makes connecting to various Telnet sites all over the world, channeling through directories, and transferring files completely transparent. You can test-drive Gopher by connecting to the consultant.micro.umn.edu Telnet site at the University of Minnesota; log in as "gopher."

The Archie database can help you locate files with names pertaining to a particular topic or application. Just call up an Archie Telnet site (archie.rutgers.edu. is just one of a dozen or so) and log in as "archie." At the archie> prompt, type the keyword you'd like to search for and press the Return key. The list you receive is likely to point to files scattered among many Internet servers. You can view this list on screen or ask Archie to send it to your electronic mailbox: just type "mail" followed by a space and your e-mail address. Type "quit" to log off the Archie server.

Among other resources are WAIS (Wide Area Information Servers), which searches actual documents by keyword, and World-Wide Web, which provides hypertext links to Internet information sources. The books we've recommended offer further details on all these tools. □

—*Cynthia E. Field, Ph.D.*

Using the Internet without an interface requires that you know some commands. That's not too difficult for Amiga users experienced with the CLI: The Internet is based on Unix, which uses a command language similar to that of AmigaDOS. If you dislike the idea of using commands, however, don't despair. Some systems through which you can access the Internet provide menu structures. And the new Internet Gopher, an intuitive interface to popular resources, can make mouse users feel at home (see the sidebar "Navigation Tools").

The Internet offers four main features: electronic mail (e-mail), newsgroups (Usenet), file exchange (FTP), and remote log-in to other computers (Telnet). Many electronic bulletin-board systems (BBSs) and commercial networks offer connection to the Internet. Some provide full access (that is, access to all four features), while others offer just e-mail and Usenet. See the sidebars "Full Access" and "Lining Up" for details on getting various levels of access.

E-Mail: Private Messaging

Through e-mail you can exchange private messages with any other person on the Internet or anyone who has an account with America Online (popular with Apple users), CompuServe, GEnie, Delphi, Bix, MCI Mail, or the FidoNet BBS. Not only can you send regular messages, you can also send files (programs, documents, picture files). Under Unix, the command UUENCODE turns a binary file into text so it can be mailed as a message. UUDECODE makes it binary again.

As with e-mail on commercial services, you must get the user's name and address exactly right. But once you send the mail, it will arrive at its destination in minutes, no matter where in the world that might be.

Each Internet address includes a users name or number separated from the network's site name by an at sign (@). E-mail addressing for FidoNet follows this scheme: User.Name@P4.F3.N2.Z1.fidonet.org. With the commercial nets, you simply type the person's online account number (designated by x's below) or name (username) followed by @ and the name of the service, plus the suffix .com (indicating a commercial network)—with no spaces. Addressing schemes are:

America Online: username@aol.com
CompuServe: xxxxx.xxxx@compuserve.com
BIX: username@bix.com
GEnie: user.name@genie.com
Delphi: user@delphi.com
MCI Mail: xxx-xxxx@mcimail.com

You may notice various other suffixes on line: names of government networks end in .gov; those of educational institutions end with .edu. Networks outside the US typically end with a country designation such as .ca (Canada) or .uk (United Kingdom).

Usenet: All The News That Fits

The newsgroups, collectively called Usenet, are the first things most Amiga users check out on the Internet. This is where you can post public messages, ask questions, get help from other users, and learn about happenings in the Amiga community.

Usenet was not a part of the Internet initially. It began in 1979 when three students decided to use a Unix feature called UUCP (Unix-to-Unix Copy) to exchange public messages and bounce them from one Unix sys-

tem to the next. (UUCP, which Matt Dillon has adapted to the Amiga as a shareware program, copies files over modem in the same way you copy files from one drive to another.) Usenet as of this writing contains 21 Amiga-oriented newsgroups, which average about 300 messages a day total:

comp.sys.amiga.announce
comp.sys.amiga.audio
comp.sys.amiga.advocacy
comp.sys.amiga.datacomm
comp.sys.amiga.emulations
comp.sys.amiga.games
comp.sys.amiga.graphics
comp.sys.amiga.hardware
comp.sys.amiga.marketplace
comp.sys.amiga.multimedia
comp.sys.amiga.programmer
comp.sys.amiga.reviews
comp.sys.amiga.tech
comp.sys.amiga.misc
comp.unix.amiga
alt.sys.amiga.demos
alt.sys.amiga.uucp
alt.sys.amiga.uucp.patches
comp.binaries.amiga
comp.sources.amiga
alt.sources.amiga

Many of the names are self explanatory, but some are not. Comp.sources.amiga is a group in which source code for public-domain software is posted. Alt.sources.amiga is roughly the same thing (in fact, any group with the word sources in the name probably offers source code, and there is a fair amount of redundancy among newsgroups). The alt.sys.amiga groups are discussions, except for the one called alt.sys.amiga.uucp.patches; it contains encoded patches for Matt Dillon's UUCP program (see the sidebar entitled "Getting On" for more on UUCP).

Other groups you may want to check out are News.announce.newusers, which offers answers to new users of the network, Alt.config discusses new alt. groups, while Alt.bbs.internet features ads for boards with Internet access worldwide.

Once on line, you can obtain an up-to-date list of Usenet groups from the newsgroup news.groups. I suggest you search the list for comp.binaries.* and alt.binaries.* groups.

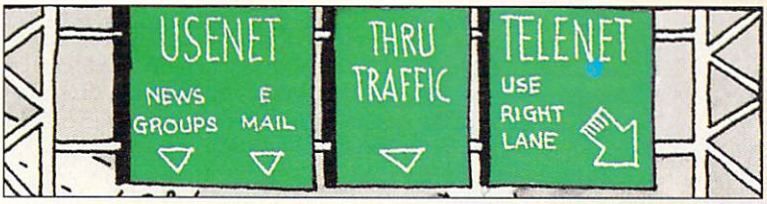
With no central organization, Usenet news has a lot of volunteer help to assist novices. Many newsgroups offer FAQ (Frequently Asked Questions) files, containing answers to common queries and information on the policies of newsgroups. Most groups have a "keeper of the FAQ," who regularly updates it. When you log on initially, post a request for the newsgroup's FAQ.

Foraging for Files

FTP, File Transfer Protocol, is the means for file transfer over the Internet. The so-called FTP sites on the Internet house gigabytes upon gigabytes of freely distributable software. FTP sites are simply hard-drive spaces allocated on a Unix-based computer that allows anyone to connect and upload or download files. If you follow the Amiga newsgroups, you'll see there are a few select sites for Amiga files.

To get to an FTP site you must type in its name or IP (Internet Protocol) number. You don't have to up-





LINING UP

AS WITH ANY other type of telecommunications, you need a modem, a phone line, and a terminal program (such as the freely distributable favorite JRComm) in order to access the Internet.

The next thing you need is an Internet "feed." If you are a university student or employee, check with your school's computer center to see if you can get an account (some schools limit Internet access to computer science majors).

The only on-line service offering full Internet connection is Delphi, although BIX offers Telnet, FTP, and mail (no news). With the other commercial services, you get mail only—and you get charged for receiving it.

It is possible to get your own individual Internet feed, but it is also cost prohibitive (around $500). A far better solution is for one bulletin board to get a feed and split the cost among local users. If you run or use a BBS that you'd like to add Internet access to, at least two BBS-management programs for the Amiga support Usenet news and Internet mail: DLG Pro (TelePro Techologies) and C-Net (Perspective Software).

The three books I recommended earlier list organizations that will sell you a feed. Another new book, *Connecting to the Internet*, is dedicated to locating Internet connections. It contains the June '93 PDIAL (Public Dialup Internet Access List), a comprehensive listing of national and local Internet services. PDIAL is updated monthly in the alt.internet.access.wanted Usenet newsgroup. You might also want to check BBS magazines such as ***Boardwatch*** and ***BBS Caller's Digest*** (which you can find in large bookstores), BBSs in your area, or a local university. (A Usenet board in my area is run by a Yale student who gets his feed from the university.) Many BBSs provide only Internet news and mail; others allow full Internet access.

Reading Requisites

To receive Usenet news and mail, you need three pieces of software: Matt Dillon's UUCP, a mail reader, and a news reader. You can find UUCP on commercial networks and in collections such as Fred Fish's. (UUCP updates are posted in the Usenet newsgroup alt.sys.ami-ga.uucp.patches.) My preferences for readers are Elm by Andreas Kirchwitz, for mail, and Arn by Mike Schwarz and Mike Smith, for news. (Another program, Grn, is also a good news reader.) You can find all three on Amiga BBSs and the different on-line services.

Files you download from the Internet may be encoded, meaning that the binary file (usually archived) is converted to an ASCII text file for posting. Software file readers save the file and convert it back to binary using the command UUDECODE.□

—AP

load anything in order to download, as you do with a BBS. You can log on to an FTP site as an anonymous user; "anonymous" is a generic account that anyone can use. Once you're in, you can navigate the FTP site as if it were your own computer, going through directories using the familiar CD and DIR commands. Getting a file is as simple as typing "get filename.lzh," where filename.lzh is the title of the file.

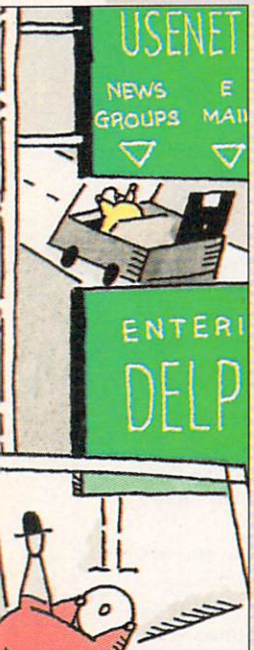
The FTP site of choice for a long time was ab20.larc.nasa.gov. The administrator was a NASA employee, and when he eventually shut down the archive, he saved its contents to a CD-ROM disc, which is sold for $25 through such mail-order sources as Creative Computers.

Currently, the hottest FTP site is in Switzerland (its name: Amiga.physik.unizh.ch; number: 130.60.80.80). It's run by Urban Mueller, author of the popular programming utility CShell 5.19. Mueller persuaded his

FULL ACCESS

A GROWING NUMBER of bulletin boards and commercial services now offer full Internet access. Some are regional, which means you must make a toll call unless you live nearby. Others are national, meaning that they use networks with dialups across the country. Be warned, though: The national networks require a per-hour surcharge, which can produce some hefty bills when added to the system's own charges.

The networks that allow this national connectivity are SprintNet, CompuServe (CIS), and Tymnet. These companies sell connections not only to on-line services, but also to private businesses, universities, and so on. To find the CIS dialup nearest you, call 800/848-8990 from your telephone. When using a CIS dialup, set your modem to a word length of seven, one stop bit, and full duplex (7E1). For SprintNet, call the voice number 800/877-5045 to find a local dialup node. SprintNet also uses 7E1 settings.



The systems profiled here require either an hourly plus a monthly charge, or just a monthly fee. Keep in mind that these costs are independent of any network fees for national access, and do not include phone charges for long-distance calling.

The various systems also use two different types of interfaces—shell accounts (wherein you operate from a command line) or menus.

Before we explore the individual systems, let me state that all are pretty evenly matched in terms of service. The menu systems are subjective; you should base your decision on logistics, affordability, and whether what you read here has a certain appeal to you. Also note that most systems are run by relatively small companies, none of which have set weekend hours (that's not to say you'll never find people there on weekends, however).

Following the individual descriptions, you'll find a table listing the services, fee structures, and interface type(s). To contact the services by regular mail or voice, consult the Manufacturers'/Distributors' Address List on page 108.

BIX

BIX, which began as a service of *BYTE Magazine*, offers *nearly* full access to the Internet—everything but Usenet news. Like *BYTE*, BIX is known for attracting technically-minded subscribers; you'll find lots of Amiga developers here. You'll also find lots of Amiga-related discussion, including an *AmigaWorld* area.

As an alternative to its usual $13 per hour charge, BIX offers a "20/20 plan," which gives you 20 hours of access time for $20 per month. If you exceed 20 hours, you are billed $1.80 per hour. During business hours both Tymnet and SprintNet charge $9 per hour for BIX access; after 7 pm it's just $3 an hour.

For five hours of free off-peak usage on BIX, dial 800/695-4882. Enter BIX at the first prompt; at the Name? prompt, enter bix.dm37ab. (You must use the five free hours within the same calendar month.)

DELPHI

Delphi has recently run ads announcing a free five-hour trial membership (good for weekend and evening use) and help from on-line experts, plus a large collection of help files. Simply dial 800/365-4636 from your modem, press your Return key once or twice, and at the Password prompt, type N3N9693.

While Delphi normal charges $13 an hour for access time, the network offers an alternative plan similar to that of BIX. After paying a one-time fee of $19, you pay $23 per month for 20 hours, and $1.80 per hour beyond that. After 7 pm Delphi is free of network charges.

IDS

This menu-only system out of East Greenwich, Rhode Island, is about to go national through Tymnet. Being relatively small, it has a community feel; most users get to know each other through the multiuser chat section. IDS offers 40 of its own newsgroups, some of which carry messages from RelayNet, one of the largest national message networks for BBS systems. Further, IDS offers several custom-built games and a menu of Internet sites that you can access with a single keystroke.

NETCOM

Rather than use an established national network for broad access, Netcom is building its own—an expensive undertaking. The service has 17 dial-in ports up and down the west coast, and plans to add others in Dallas, Atlanta, Boston, and Washington, DC.

Netcom charges $17.50 per month if you allow direct billing to your credit card; if you prefer to be billed by mail, an extra $2 per month charge applies.

PANIX

Panix has been described as a distinctly New York service, lacking the "warm fuzzies" of the California systems. At the time of this writing, Panix was local to New York City only, though it should be on Tymnet by the end of '93.

Panix provides not only a Unix shell, but also a menu system that shows you what's going on underneath when you make your selections, so you can learn more easily.

Panix has two pricing levels. $10 per

university to allocate hard-drive space for an FTP site; when space ran out, users donated enough money for him to buy a 1.5GB drive. Navigating this and other foreign FTP sites is not usually a problem; the Unix commands are in English. But the programs you download may well be presented in German or some other language.

Mueller's site is mirrored in the US by wuarchive.wustl.edu—the largest FTP site in the world. By mirrored, I mean that the entire content of the Swiss site is available through the wuarchive site, which is run from an eight-gigabyte workstation at Washington University in St. Louis, Missouri. A file uploaded to Amiga.physik is automatically transferred to the mirror location at wuarchive. Mirroring is done to alleviate congestion at a busy site; too many users at once will slow a system drastically. Wuarchive has the whole ab20 archive, plus its own Amiga section. In ad- ►

month gets you news and mail; for $19 you get everything. A $1 per hour charge applies if you exceed 60 hours a month.

Portal

Portal's selection of Amiga files is probably the most expansive on line. The network offers a series of SIGs (Special Interest Groups), including the AmigaZone, which you may remember from the now-defunct PeopleLink, and an *AmigaWorld* area.

Portal is accessible via SprintNet or Tymnet. At the @ prompt from a SprintNet port, you must type one of two commands. "C Portal" will do it for some. Other SprintNet ports—and Tymnet—provide a message saying you are connected to the network and asking you to "Enter system:". (If the system instead says "Enter NEW, INFO, or HELP," hang up and redial. This time type "C 408264.02" at the @ prompt.) From there, the system asks whether you want Portal On-line (the menu system) or Portal Shell. Type "On-line" or "Shell" to indicate your choice.

Portal charges a flat rate of $19.95 per month with no hourly charge; SprintNet and Tymnet cost between $7 and $10 per hour between 7AM and 6PM; at night the rate drops to $2.50 per hour.

Portal recently instituted a program called Portal Pursuit for those who call direct during evening hours. The pricing is a steal; you can buy 30, 60, or 120 hours per month for $1 per hour.

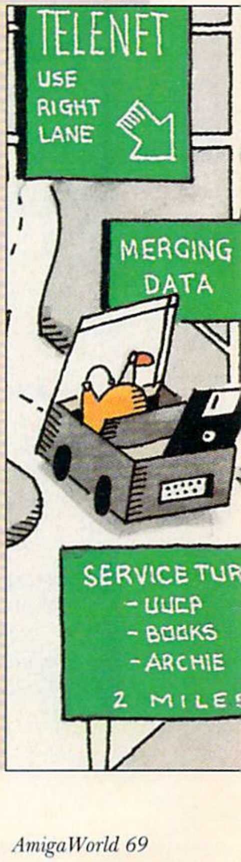
The World

Boston's The World, currently a shell-only system, is working on a menu interface. It offers pretty good speed, considering all of its users are on one Solbourne system (by contrast, Portal uses 17 Sun workstations). This means there is no backup system—but down time is always announced well in advance.When you dial The World, type "world,domestic" at the host name prompt. The password is "notobvious."

The WELL

WELL (Whole Earth 'Lectronic Link) is run out of Sausalito, California, by the publishers of *The Whole Earth Catalog*, a "new-age" publication. The WELL specializes in conversation and discussion, offering more than 200 public message groups and just as many private groups. Files are given low priority here, though you may not care about files once you see who's here. Anonymous messages are not allowed, and The WELL offers rewards for attracting celebrities. Mitch Kapor, founder of Lotus Development, and John Perry Barlow, song writer for The Grateful Dead, founded The WELL's Electronic Frontier Foundation, which has become a sort-of ACLU for hackers who've been stomped on by the FBI.

The WELL uses its own menu system with no shell access. You can reach it via CompuServe (at the HOST NAME: prompt type "WELL"; there is no password.) □

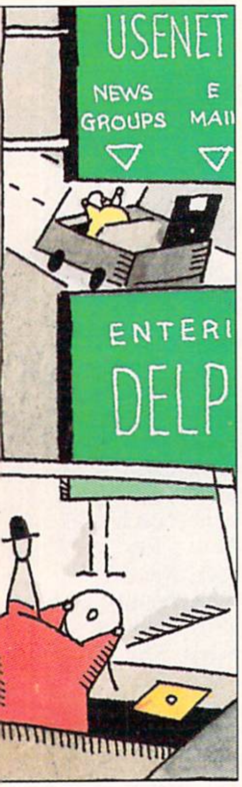


SYSTEMS AT A GLANCE

System	Modem number	National network	Monthly	Hourly	Network	Interface*
BIX	800/695-4882	Tymnet/SprintNet	$13	$0	$3/$9	m/s
Delphi	800/365-4636	Tymnet/SprintNet	$13	$0	$0/$9	m/s
IDS	401/884-9002	Tymnet[1]	$15	$0	—	m
Netcom	800/448-2558	none	$17.50/$19.50	$0	n/a	m/s
Panix	212/787-3100	Tymnet[1]	$10/$19	$0	—	m/s
Portal	408/725-0561	SprintNet/Tymnet	$19.95	$0	$2.50-$10	m/s
The WELL	415/322-6106	CIS	$15	$2	$4	m
The World	617/739-9753	CIS	$5	$2	$5.60	s

* m=menu; s=shell

[1] Tymnet access pending as of this writing.



dition, it mirrors three other Amiga FTP sites.

Owners of Macintosh emulators can find software by the ton at sumex-aim.stanford.edu—the Mac site of choice. For PC software, wuarchive is the place to look.

FTP sites around the world are estimated to have a total of 130 gigabytes of files. This is somewhat misleading, since FTP is terribly redundant. The same file can be in 50 locations, and some poorly-managed sites might have five revisions of a single program. McGill University started a database called Archie to track files on FTP. It became so popular that 13 more sites were set up around North America. You can reach Archie via Telnet or e-mail (see the sidebar "Navigation Tools" for details).

A word of warning about FTP: It is virus heaven. In four years of Amiga ownership I have never seen an infested file on a local BBS—but FTP is a different story. To help you ward off unwelcome visitors, Virus Checker, VirusZ, and BootX are all placed on Internet immediately after release, usually at busy sites like Amiga.physik. Always keep an eye out for new versions of those files. And if you do get infected with a new virus, look in the documentation for the programs. (Also, see "Put on the Hex," July '93, p. 43.)

Telnet: Other People's Programs

Research—specifically, remote access to supercomputers—was the original purpose of the Internet. That capability is allowed by Telnet, a unique feature many Internet users do not take advantage of. Telnet enables you to run programs on other networked computers—from the comfort of your own Amiga. Telnet still facilitates much of the research that takes place here; scientists the world over regularly use it to connect with Cray supercomputers and conduct experiments.

But all work and no play would make Telnet a dull log-in facility. So many people use it to connect with Multi-User Dungeons (MUDs), text-based role-playing adventure games. Busy MUDs average about 30 players at once, and people can band together to play as a group. If you get good enough and can program, the administrators may give you special access to add your own realm. Problem is, these games sometimes become "too popular," and the host site doesn't like the CPU being hogged with games. Furthermore, the people running MUDs often burn out fast (since so much work goes into running one), and MUDs tend to have short life spans. You can find a list of MUDs in the rec.games.muds.announce newsgroup.

Another feature of remote log-in is bulletin board systems (BBSs). As the Internet has grown and providers have become more plentiful, BBSs have hooked up to the network. The aforementioned alt.bbs.internet Usenet newsgroup is devoted to discussing Internet-capable BBSs. It's also where new boards are announced, and where NIXPUB is posted. NIXPUB is a list of all public-access BBSs in the country that offer some Internet features. Most of these boards offer only newsgroups and e-mail, while others provide the full-blown Internet connection.

A very popular feature of remote log-in is IRC, Internet Relay Chat. This is just like CompuServe's CB, aptly named after citizens-band radio. It offers all of the features of most CBs: nicknames, private messages, listings of who's on line, paging, and so on. There is always at least one Amiga channel active; you can join an existing chat channel or create your own. Because the Amiga is so much more popular in Europe, it might help to know German when visiting these channels.

As with FTP, you must know the name or number of a Telnet site to log on. Ed Krol's book (*The Whole Internet*) has a very long list of Telnet sites, but because they tend to rise and fall quickly, you may want to check with net stalwart Scott Yanoff (yanoff@csd4.csd.uwm.edu), who maintains a list of current Telnet sites.

The Road Ahead

Now that private industry is realizing that this huge, world-wide network is in place, everyone wants to find a way to use it. Is the inevitable commercialization of Internet good or bad? It's a toss-up.

Currently, the Internet is a commercial-free zone, and no for-profit activities are allowed. I like it that way. (I get enough junk mail from the post office—who needs it on line?)

But corporate America could be good for the network. Already, Apple and Novell have taken part in setting up Gopher servers on Internet. With more financial resources, the Internet could become far more than it is today. ■

*Andy Patrizio is assistant editor for the **Software Industry Bulletin**, a weekly trade publication that specializes in financial reporting of the software industry. Write to him c/o **AmigaWorld** Editorial, 80 Elm St., Peterborough, NH 03458. Special thanks to Cindy Field and Tim Walsh for their contributions to this article.*

RECOMMENDED READING

The Internet Companion: A Beginner's Guide to Global Networking
Tracy LaQuey with Jeanne C. Ryer
1993, Addison Wesley Publishing
Reading, MA
ISBN 0-201-62224-6
$10.95

The Whole Internet User's Guide and Catalog
Ed Krol
1992, O'Reilly & Associates
Sebastopol, CA
ISBN 1-56592-025-2
$24.95

Internet: Getting Started
April Marine, et. al.
1993, PTR Prentice Hall
Englewood Cliffs, NJ
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Susan Estrada
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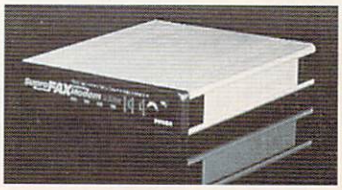
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ACCENT ON GRAPHICS

Clip-Art Primer

59

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

By Joel Hagen

IN THE VOCABULARY of computer graphics and desktop publishing, the noun "clip" usually refers to a preexisting image that can be added to a screen or document. Used with imagination, clip art can enhance a project, set an interesting visual style, and save time. Too often, unfortunately, designers seem to use it as a substitute for creativity and patience. This column will introduce clip art to the novice, but also suggest a few experiments with clips that might add a more innovative look to a project.

Clips can be pictures, symbols, designs, borders, backgrounds, maps, or just about anything. Clips can be black and white or color. They can be "bitmapped" images such as are produced by a scanner or paint program, or they can be "structured" images such as those produced by a drawing program.

Is That A Fish I See Before Me?

This distinction between structured clips and bitmaps is important to understand. On your computer screen when you look at a bitmapped clip like the fish in the accompanying illustration, what you see is what you get. The image is simply composed of pixels—no more, no less. If you shrink or enlarge the image in a paint program to compose a screen for film, video, or computer presentation, the quality of the image suffers. It is no longer an exact copy of the original. It may still look satisfactory for your purpose, but the image has changed in quality.

On the other hand, when you view a "structured" clip on the screen of your desktop-publishing or drawing software, you are seeing only a representation of the true image. The image is actually stored as a list of "instructions" about how each line and shape should be drawn. That structured clip can be enlarged or reduced without affecting its final printed quality. At any scale it is an exact version of the original because the same instructions are being followed. It can be reproduced on any monitor or printer at the best quality that device will support. In desktop publishing, structured clips can have advantages over bitmaps since they can be scaled to any size with no loss in print quality.

As was mentioned, bitmapped clips in screen displays suffer if they are reduced or enlarged. Interestingly, there is considerably greater tolerance for changing the size of bitmapped clips within a DTP environment. This is particularly true of pictorial line art. The resolution of most printers is high relative to the grid of pixels needed for reproduction, so there is some latitude in maintaining the accuracy of the bitmap at different scales. Your decision about when to use bitmapped or structured clips depends on your project.

Many Amiga owners are using their computers to explore art for the first time. Experiments with clip art can be good exercises in composition and design. The illustration is an example of one approach you might try, that of montage. Montage is defined as the art of arranging in one composition pictorial elements borrowed from several sources so the elements are both distinct and blended into a whole. This illustration employs bitmapped clips from volume one of SoftWood's SoftClips collection. To try a similar project, begin by loading one or two dozen clips that interest you to your hard drive for easy access. Then load one clip to a high-resolution screen in your paint program. Load another clip to the spare screen. Pick up one clip as a brush and bring it to the other screen.

The "Eyes" Have It

The design process at this point is akin to solving a jigsaw puzzle. Observe the forms as you move brushes around and watch for interesting compositions. Our primate brains are superb at recognizing relationships of shape and form, so simply relax and let that happen. In the illustration, notice how the shapes of the butterfly and fish complement the sweep of lines in the owl's face. Serendipitously, the fish's eye could be nicely aligned with that of the owl. Catalyzed by such an association, your attention might focus on other eyes.

Used judiciously as part of your overall composition, clip art can add interesting twists to your graphics work.

The human eye fit the composition when it was flipped. For some reason, the burger also seemed to belong there.

The background in the illustration was chosen from another kind of clip-art collection. It is a professionally made 24-bit scan of copper patina from Texture City's extensive collection of photographic clips. For the sake of this composition the brightness has been changed radically from the original clip. Several publishers supply assortments of full-color textures that you can use as backgrounds or plaques in creating screens for video, film, or computer presentation. These include many types of stone and metal surfaces as well as wood, fabric, and so on. You can also use these clips in 3-D programs as texture wraps.

In addition to montage, another line of experimentation with clip art is image fusion. For example, put the head of a tiger on the body of a trout (see example this page). The trick is to do this skillfully enough that the fused image shows no sign of retouching. Black-and-white bitmapped clips can easily be merged in any paint program simply by cutting, erasing, and assembling. Touch-ups with the airbrush or spray tool finish the job.

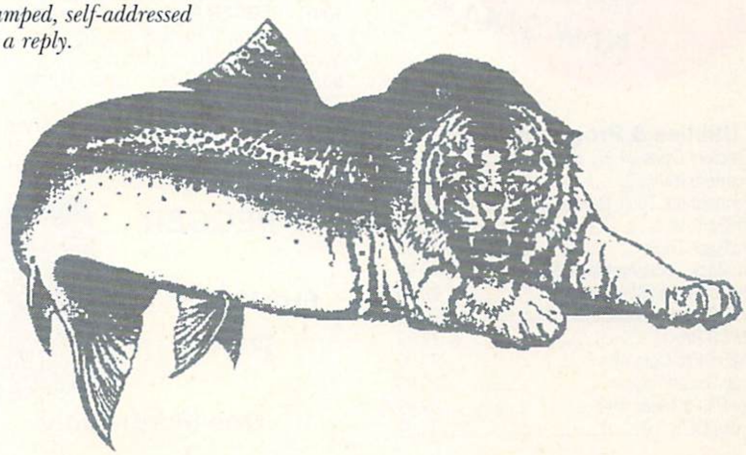
Structured clips can be distorted in any good drawing program. Load the clip, select it, then ungroup it. Now, individual control points can be moved or adjusted to reshape the lines. As an example, you might be putting together a newsletter for a prenatal care group but be unable to find a clip of a pregnant woman. By ungrouping any clip of a woman in profile, you can change control points to create a suitable new contour. A good structured-drawing program also allows you to cut or join lines of ungrouped objects. This allows powerful control in reshaping or combining clips. Scaling and distortion aid you in matching forms.

Interesting patterns can be made by superimposing two or more structured clips. This can produce objects that become very cluttered, but if you are careful you can create interesting images this way. Experiment with different line weights as you compose. A structured image that lacks strength with one-point line thickness may become simplified and powerful simply by thickening the line weight to five-point. ■



In "A Watched Burger..." (above) bit-mapped clip art has been combined in a montage wilth a 24-bit texture clip as a background.

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope for a reply.



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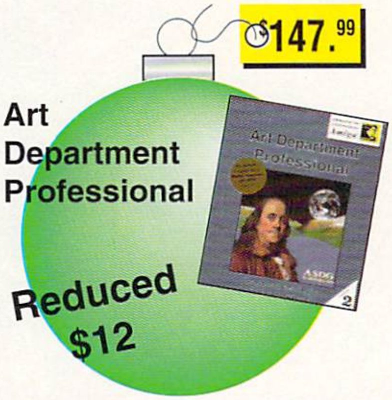


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Making Your Toaster Cook-2

More Toaster-specific products to turn up the heat on your hot video board.

By Paulo de Andrade

HARD-DRIVES, TBCs, frame recorders, networking systems... there are many hardware products that happen to work well with NewTek's Video Toaster and enhance its performance. Some hardware, however, is designed specifically for use with the card. I looked at several hardware and hardware/software combination products to finish our roundup of Toaster-specific products (see last month's column for a discussion of software-only packages designed for the Toaster).

Hardware

Several hardware devices offer solutions to different Toaster problems.

Toaster Cozzy
$449.95, ***Heifner Communications***

Installing a Video Toaster in an Amiga 3000 requires more than just opening the case and placing the card in a slot. Physical constraints necessitate a modification to the back of the the A3000 that voids the warranty. Even with this modification, the Amiga 3000's power supply is too weak to handle Toaster peripherals.

Heifner Communications has a very elegant solution: the Toaster Cozzy. This attractive box sits neatly on top of the computer and offers not one but two video slots. Although the second one is not yet functional, it will allow some very interesting possibilities, like using the Toaster in one slot and another card, such as Centaur's OpalVision or GVP's IV24, in the other. Another possibility is the use of a daughterboard to connect a Y/C video adapter.

Construction of the metal box is of the highest quality. Inside is the main circuit with the two video slots and a dedicated power supply to alleviate the computer's power load. Also included is a piece of hardware necessary in a professional video environment—a blackburst (sync) generator. This particular unit provides five BNC outputs, eliminating the need for a sync-distribution amplifier for most applications.

The Cozzy is easy to set up. It comes with good instructions and all the cables, connectors, and screws you need, so you can have it working in no time. Because of the attention to detail and the extra features, I consider it an excellent value. And, it's useful not only for Amiga 3000 owners, but also for owners of Amiga 2000s and 4000s who wish to expand the video ports of their machines.

Toaster Toolbox 4000
$369.95, ***Desktop Video Systems***

It is no secret that the Amiga 4000's power supply is weak. The extra load caused by TBCs and similar peripherals can lead to operational problems or even total power failure. Desktop Video Systems has a clever solution—a mini-tower case with a hefty power supply and eight PC-style expansion slots. This attractive case accepts TBCs, edit controllers, sync generators, and waveform/vectorscope monitor cards, freeing up your A4000's slots and letting its power supply breathe easier. Because the Toolbox does not provide a video slot, it cannot house the Video Toaster itself. Optional SCSI and serial cables, however, allow for the Toaster Toolbox 4000 to house hard drives, tape drives, and CD-ROM drives.

Although the number 4000 is part of the name, I see no reason why you couldn't use this box with other Amiga models.

The Breadboard
$398, ***PreVue Technologies***

Connecting a Toaster to another video switcher can be useful, but it is not a straightforward task. The Toaster delays video signals by 440 nanoseconds, just enough to cause trouble.

PreVue Technologies comes to the rescue with The Breadboard, a delay-distribution amplifier that connects internally to the Toaster. This small unit has five video outputs (BNC connectors) that you can configure in a number of ways. Outputs D and E are extra program and preview outputs, freeing the respective Toaster outputs for connection to additional monitors or VTRs. Outputs A, B, and C can be configured as delayed signals from inputs one through four or as Key Insert or Key Source outputs. The Key Source output is particularly useful, as it outputs alpha-channel information for clean switcher keys. The Key Insert provides a direct output of either DV1 or DV2. If you require all the above combinations at the same time, you can use two Breadboards simultaneously.

To properly configure The Breadboard, you must solder and unsolder wires during installation. If you are not comfortable with a soldering iron, hire a technician to do it. Another problem ►

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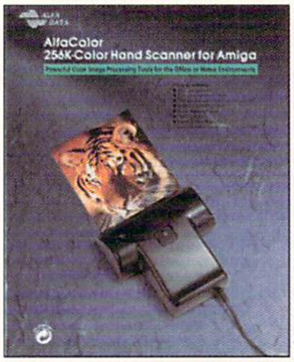
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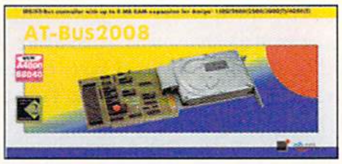
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Circle 153 on Reader Service card.

is that The BreadBoard cannot be used with any other product (such as Y/C Plus) that uses the internal Toaster connectors. This is not the fault of The Breadboard, but due to the fact that the Toaster has only one set of internal connectors.

The BreadBoard comes with detailed instructions and diagrams for installation and configuration. If you need to connect the Toaster to an external switcher, this is for you.

Y/C Plus
$799, ***Y/C Plus Inc.***

One of the most common complaints about the Toaster is that it provides only composite video inputs and outputs. Many owners of Super-VHS and Hi8 equipment feel that Y/C inputs and outputs would make better use of their gear. Y/C Plus answers this complaint with a well-designed board that connects internally to the Toaster. Designed by engineers who helped design the Toaster itself, Y/C Plus uses Faroudja Laboratories technology to deliver cleaner video.

The board contains four Y/C inputs and two Y/C program outputs. If you have composite video connected to any of the Toaster inputs, Y/C Plus may be configured to accept it. You can also use Y/C Plus with Betacam SP and MII VTRs, but the manufacturer is working on specific adapters that will take advantage of these formats' true component signals.

Y/C Plus significantly decreases picture noise. Not only is this apparent to the naked eye, but it can be seen clearly on a waveform monitor. This by itself may justify the purchase price for some video purists.

The improvements brought by the Y/C signal handling are a different story. While viewing the image through a Y/C video monitor reveals reduced artifacts such as chroma crawl, viewing the same image output composite from the VTR on a composite monitor shows little or no chroma-crawl improvement. As true Y/C exists only inside a studio environment, I feel that looking at the final composite picture is very important; that is how video is seen in such real-world situations as television broadcasts and VHS dubs.

But Y/C Plus offers a very important change in composite signals when editing. By keeping the luminance and chrominance signals separate, the video signal suffers much less severe loss while going through multiple generations. The result is a better-looking edited master than one produced with the Toaster in its normal composite mode. This difference is more apparent with nonbroadcast formats such as S-VHS or Hi8 than with true broadcast-quality formats like MII or Betacam SP, as the latter have increased bandwidths and handle multiple generations better.

If you want the best quality output from the Toaster and you work with Y/C compatible VTRs, Y/C Plus may be your ticket to better-looking video.

Hardware/Software Combos

Some products don't fit neatly into either the Hardware or Software category...

The Deli
$250, ***Personal Video Wizards***

Although The Deli is mainly a software product, it comes with a GPI trigger cable you can connect to the second joystick port for manual control. The Deli lets you select a series of Framestores and assemble them into a self-running sequence. It lets you assign any Toaster transition to any Framestore, and determine its duration and the time the final frame will remain on screen. After assembling the sequence, simply click the Run button and The Deli will automatically load the Toaster switcher and run the presentation.

The Deli also allows you to include video clips in your presentation, and call and superimpose CG pages. It lets you grab frames and comes with several utilities that help you organize your Framestore libraries and more.

This program should be a real time-saver for people who transfer slides or photos to videotape in a presentation format. Once the pictures are grabbed, they can be easily timed and transferred to tape directly, with no time-consuming edits (or need for expensive VTRs). With the supplied GPI trigger remote cable, you can even run a live presentation that progresses according to the speaker's needs. The software is easy to learn and the cable can be used without the software to trigger transitions remotely. (For further details, see the full review, Dec., p. 73).

DejaVue
$398, ***PreVue Technologies***

DejaVue is a control system that "learns" your Toaster switcher setups and recalls them at the touch of a button. The attractive box plugs into the second joystick port, and comes with a cable long enough to allow convenient placement on any desktop. A GPI trigger pass-through at the back of the box means you won't lose whatever GPI-control device you were using before.

The unit has ten buttons to save and recall settings. A Learn button, pressed together with one of these ten, immed iiately stores the switcher settings. There is also a Menu key that brings you some options on screen and a Transition button that acts as the space bar on your keyboard.

The software is easy to install and transparent to the user, but the seven-page manual could have been expanded to suggest some practical applications. DejaVue is particularly useful if you don't own a fancy editing controller (such as Videomedia's SuperMicron) that directly controls Toaster switcher functions. With DejaVue, you can store your complex setups and recall them quickly while editing, saving a great deal of time. It makes your Toaster much easier to use.

And That's Not All

While this is a good sampling of Toaster-specific hardware and hardware/software products, more are on the way. For instance, ***Ambitious Technologies*** has a new tower-style expansion case. The original **Toaster Oven** ($529.95) accommodates the A3000 motherboard and the Toaster and offers seven additional slots, extra drive bays, and a 275-watt power supply. The new model ($799), designed for use with the A3000 or A4000, offers 11 slots, 10 drive bays, and a 300-watt power supply.

PreVue Technologies has added new Toaster hardware to its lineup, too. The **Toast Timer** ($298), lets you use the timing reference of the downstream switcher (usually blackburst) as the Toaster's timing reference. The half-length board fits into an Amiga PC slot. You plug the reference signal into one of the unit's two input-reference BNC connectors. A short cable links one of the Toast Timer outputs to Toaster input number one.

Toaster add-ons take NewTek's video board to new levels, giving it more and better capabilities. Whether you want to build the hottest Toaster system in town or just need a way to make your job easier, you're likely to find solutions to keep you cookin'. ■

Paulo de Andrade is president of Digital Reality, an Amiga-based broadcast-video and 3-D animation company in Seattle.

The Game Preserve

Hired Guns

A– | 1.3 ✓ 2.0 ✓ 3.0 ✓ | Hard-drive installable. Off-disk copy-protection.

SCREAM ALL YOU want, but there's no such thing as a computer role-playing game. RPGs, which should, by nature, celebrate the individuality of characters, often wind up as slave ships for sets of stats with the player as the whip-cracking captain. This isn't role playing so much as database maintenance. Day job stuff.

Hired Guns (***Psygnosis***) should change all that. This futuristic action/RPG from DMA Design—four mercenaries making their rounds on mutant planet Graveyard—allows up to four players to simultaneously control different characters on the same Amiga via mouse, joystick (up to four, using an adapter), joypad, or keyboard.

It works splendidly; there's nothing like the human element to give a computer game an edge. I can't quite convey the joyful chaos that ensues as a real-life team cooperates to find an exit, argues over tactics, solves logistical puzzles, scrambles for booty like Charles Barkley going for a rebound, covers each other and, invariably, shoots each other. "Hey, I'm sorry. It was an accident." "Yeah? Well, this is an accident, too, pal" (sound of mini-gun opening up). The game no longer resides so much in the computer as in the room where it's played—an incalculable change from the cool solitude that usually characterizes these things. If you don't have any computer-friendly friends, ownership of Hired Guns could earn you some.



Divide and conquer—You and three pals can play Hired Guns.

Of course, all this is still great fun, and works perfectly, with ►

"COMMWARE:" THE LATEST TREND ON THE NETS

Commercial games are beginning to meet up with the shareware concept—sometimes on the way up, sometimes on the way down—with results that ought to be profoundly delightful to Amiga gamers.

A recent beneficiary of this affiliation is **WarWizard** (***Microgenesis***, $20 shareware fee)—planned as a commercial game but released as shareware in September because of "financial constraints and the condition of the Amiga market." This huge hybrid of Ultima and Phantasie isn't quite up to 1993 commercial level—it has only very basic character interaction and no sound, for instance—but it has a pretty hi-res face and offers a number of sweet features that aren't available elsewhere. Among them: the ability to search a room in detail (moving the cursor between the furniture) and to target particular parts of the body with weapons held in both hands—a far cry from the usual hack-hack-hack-he's-dead-Jim.

Bear in mind that it requires a hard disk to even download—the 915K archive decompresses to around 3 megabytes—and while technically, it can be played from floppy, its creators don't recommend it (and don't include any instructions for doing so anyway). And be sure you get the updated version (WarWz101.lha), or the patch that repairs the original archive (WarWzPch.lha). Getting the original going was next to impossible: The two game fonts (Moose and Venice) were left out of the archive, along with the necessary error detection to report their absence. Result: Gurus up the wazoo.

But I wouldn't go on like this if I didn't think WarWizard was worthwhile. While it is simply the most recent in a long chain of respectable Ultima clones that includes Antep, Zerg, Omega (in its bitmapped incarnations, now up to version 1.61), Legend of Lothian, and UTG, it has a mind, and distinctive style, of its own.

On the other hand, there's never been a freely-distributable game like **Shepherd** (available via FTP on Internet). Dutch author Obbe Vermei posted a playable demo of this Powermonger-with-animals work-in-progress in hopes of landing a publisher.

Here's hoping he finds one, because this game—while a bit tough to learn—is brimming with potential and charming light touches. And like PowerMonger, it's a pleasure just to play around with it before you play it for keeps. (Note: Be sure to get the NTSC version. There's a PAL one floating around as well.)

We've also started to see a trickle of former commercial games drifting into the PD and shareware market—the most recent being David Ashley's excellent **Targis**. (Other examples in recent years include the Zaxxon clone H.A.T.E. and the strategy/arcade game Growth. The engine for Kingsoft's two Emerald Mine-Boulderdash clones has turned up in any number of PD vari- ►

A—Wow! Exquisite. A must for your games library.
B—Great fun. Plenty of entertainment value here.
C—Meets expectations. Good, solid, performer.
D—Disappointing. Lots of room for improvement.
F—A real stinker. Don't waste your time.
*** You may encounter some problems under this operating system and/or require a PAL/NTSC adapter.**

just one player using the mouse. Simply shift the pointer between the four square view windows—laid out much in the fashion of Team Yankee—and whichever window it's in becomes the active one. (You can maneuver characters individually or force the team to follow one moving character.) Click on the file-folder-like tabs above the windows, and the more-than-serviceable 3-D view changes to either a scrolling graphic inventory—a delightful array of ordnance and items await your perusal—the prettiest little ol' automap you ever did see, or a description of the current state of the character.

Take away the multi-player angle, and you have an above-average but familiar RPG. Each area is explored in real time, with square-by-square movement firefights erupting on the 3-D movement screen rather in the fashion of Hired Guns contemporary Space Hulk (which we'll look at next issue). The missions are many: training games to let you get a feel for the controls; action games for those in the mood for a short blast (including two outings in Lemmings hatcheries—this being DMA, after all); and the full and rigorous campaign game on Graveyard, through which you're able to choose your own bloody path. In this last, the levels are quite sizeable—from multi-story structures to water-logged trenches to dungeon-like cellars to the great outdoors—and it's nice to be able to go back to conquered regions and try newly-learned strategies on old and resistant puzzles. (On the other hand, it's not so nice to discover all the monsters have been reset. Yikes.)

Some also may take exception to the inability to create characters—the four are selected from among about a dozen pre-washed types—but you can at least edit the way they look by loading IFF files into your favorite paint program and porting them back into Hired Guns.

As a multi-player game, I can't find fault with HG (except over the absence of modem play, which I trust they'll consider for the contemplated HG II). In one-player mode, you have to fall back on the game to supply the atmosphere. It's plentiful—for instance, those with extra chip RAM will be treated to an additional 410K in sound effects—but there's a fine point or two that could use tweaking.

Consider the asides the mercenaries trade—the little references to Aliens II, the cranky complaints, the casual rudeness when passing a companion. The first few times through, these cracks—which scroll past along a central divider—are charming and personable. Later on, after you've heard the same spiel three or four times, you realize that many of them have little to do with what's actually happening in the game—save when someone's dying—when they could have been made context-sensitive.

On the other hand, Hired Guns superbly performs a host of other little tasks that Psygnosis games are not ordinarily known for: a hassle-free installation on hard disk, easy-to-handle off-disk copy-protection, saving to RAM, a clean exit. It doesn't really multi-task, true, but it happily shares memory with both Final Copy II and Directory Opus 4.0, and it offers a window back to Workbench, which permits you to keep this big game in stasis while you attend to other business.

Besides, the lack of multi-tasking shouldn't be much of a sacrifice. I can't imagine anyone playing Hired Guns and wanting to do anything else.

You will notice the absence of Crib Notes from this month's Game Preserve. I suppose I could say it was kicked out for cheating, or that it was abducted by Nazi spies from the Indy game, but it's really more like being too fat for the uniform. I've decided to discontinue this feature to open up space for more in-depth game reviews. With a somewhat smaller Game Preserve, and a continued flood of games, something had to give.

You may not have seen the last of it, though. Space permitting, we'll take it up again in the future. And like a wayward child, Crib Notes may sometimes wander home for the holidays. But don't worry about completing Indiana Jones and the Fate of Atlantis. I won't leave you hanging. (Not for long, anyway.) Once I finish writing the walkthrough, I'll upload the whole thing to the major online networks.

After all, anything else would be like cheating. ***—PO***

GUNSHIP 2000

A — 1.3 ✓ 2.0 ✓ 3.0 ✓
Hard-drive installable. Off-disk copy-protection.

THE ORIGINAL GUNSHIP, one of ***MicroProse's*** first Amiga games, crashed and burned with no survivors. It featured only the most modest improvements over the 8-bit version. We didn't get any kind of real Amiga helicopter game until Thunderhawk.

The new **Gunship 2000** ($59.95) finally delivers on that unfulfilled promise. It gives you the opportunity to fly seven US combat helicopters—from light scouts up to Apache Longbows—over Central Europe and the Middle East. You start out as a trainee with access only to a few machines and rudimentary missions. As you advance in rank and prowess, you get to taste the high-priced spread, and eventually, command a squadron of five choppers (one of 'em yours). That's a whole new realm for sims on the Amiga, and a transcendent experience worth working toward. It's not easy keeping your mind in five places at once—even the Amiga has trouble doing that—but Wing Commander can't touch it.

This isn't some high-end-only deal, either. Naturally, the ►

COMMWARE

From p. 81.

ations in Europe.)

Targis (originally released by Incognito in 1988) is a perfect candidate for reinvention as shareware: a LodeRunner variant that never acquired the celebrity it so richly deserved as a commercial game and sank from sight into collectordom before turning up on the nets last summer. While its adherence to LR principles is unswaying, this rigorous 200-level platformer is cute rather than spartan and it comes with a level editor.

(You'll also want to check out the new graphics and sounds that recently appeared on GEnie.) Not seen yet: Blood Runner—a European LR variant.

The last time we looked at PD games in any depth the trend was converting 8-bit classics to the Amiga. It's continued unabated, and the most recent one from the BIgnonia team (responsible for Donkey Kong and Aztec Challenge, among others) is the charming platform game, Popeye (widely available). It includes a ballot for future ports. My vote: Access' Beachhead.

A fourth AGA game has turned up in the public domain: **Motorola Invaders II** (available via FTP on Aminet as MOTORINV.DMS and MOTORIN2.DMS). From appearances, this two-disker from Sweden appears to be a Space Invaders clone—albeit one featuring unusual delicacy in its artwork and variety in its play. Another PD first: **The Talisman** (available via UK PD houses)—a gorgeous and extremely professional gray-scale text-and-graphics adventure out of the UK—requires 2 megabytes to run, and it's not even AGA-specific. Significant others: **Conquest & Dominion** (widely available) is a well-wrought mingling of Sim City and Empire influences on a vast scale, and **Scorched Tanks** (GEnie and Internet), an addictive artillery game that scorches its model, the IBM artillery game Scorched Earth, right down to the ashes. It's 5 a.m. Do you know where your bedroom is? □

faster the machine, the better—it screams bloody murder on '030-based A3000s and A1200s—if only because it allows the handsome pre-flight screens to flick along that much more quickly. But GS2K, as it is known among devotees, flies just fine on an ordinary A500. And by just fine, I don't mean some anorexic version trimmed down to a one-oasis desert by detail settings. I mean with detail at medium (the default), and the surface flush with interesting things to blow up. (Only the sped-up view under time compression seems ragged.)

Admittedly, the surface itself isn't anything new—the usual sea of pyramids and polygons—but I don't recall it being so varied, so well-defined, and so lively. There's nothing I like better than loosing a Hellfire, hitting F8, and watching my target from behind—in this case a Scud launcher, rendered in detail, with missile pointed skyward—as missiles fired earlier buzz overhead, complete with smoke trails.

And then my last Hellfire appears on the horizon. Miller time.

The ensuing shattering explosion is an almost physical thing—as seen from the air, where targets really fly apart—and even without branches brushing your ears, GS2K feels close-up. A thick layer of sound embraces the game—from the whap of chopper blades to crackled calls from crewmen reporting incoming fire—and you're free to sit back and enjoy the experience. It's feature-rich, but not too feature-cluttered, and it's easy to learn. (I loathed plotting way points until I plotted them on Gunship 2000's pretty-as-a-picture in-game map.) Even just pausing the game pulls up a breakdown on the weapons that are suitable and unsuitable against the current target—a great asset to a fire-the-heaviest-ordnance-first lummox like me.

On the downside, the two-theater setting is a pretty claustrophobic game world, especially given the implausibility of the Soviet-attack scenario. And there is one feature from the IBM version sadly missing on the Amiga: the ability to record and replay missions. The docs plead "memory restrictions." Surely there are enough 3000s and 1200s around to make it worthwhile to cook up a replay module for the two-meg-and-up crowd?

Even so, loss of bragging rights is a relatively small concession to pay for the privilege of playing this remarkable game. Pilots? Your time is spoken for: Go to it.

Programmers? GS2K should serve as inspiration to can't-be-dones who think of the Amiga only as a 7.14 MHz machine with nice sound. Press its limits; then watch them fall away.

Continued on p. 86.



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SHORT TAKES

From p. 83.

Soccer Kid

B+	1.3 ✓ 2.0 ✓ 3.0 ✓
Not hard-drive installable. Off-disk copy-protection.	

Games like Soccer Kid (*Krisalis*, about $35) and Sleepwalker (with which it has a lot in common) represent the direction platform games are going to have to take to avoid the Curse of the Playalikes. Anything that makes you think a little can't be that bad. And when a game is as playable and as delightful to look at as this descendant of Krisalis' earlier Arabian Nights, the thinking is almost painless.

Instead of Arabian Nights' overt puzzle-solving, the idea here is to use the ball to perform tasks for the kid—like bouncing through a too-small-to-walk-through corridor to collect goodies or over a maybe-too-wide-to-jump gap to send another skateboarder or bicyclist sprawling. Along the way, we're treated to a splendid array of soccer moves: over-the-shoulder kicks, heel and head bounces, and even balancing on the ball and bouncing off it to gain altitude.

On the other hand, the plot is sort of awful and the rather rigorous copy-protection and lack of support for hard disk aren't too cool either. (At least the game supports up to four floppy drives—one per disk.) But who pays attention to the plot in an arcade game? Goal, Krisalis.

B-17 Flying Fortress

D–	1.3 ✓ 2.0 ✓ 3.0 ✓*
Hard-drive installable. Off-disk copy-protection.	

About which I can say only: Ack. Not as in ack-ack, either. As in "Ack! Phhppptt!"

With some cleaning up, this World War II bomber game from *MicroProse UK* (about $40) could have been a fantastic simulation. Conceptually, this is the sort of game I've always dreamed of playing: all the parts of the crew are aboard this four-engine workhorse—from flying to bombing, to navigation, to manning the turrets and more. It's essentially a Megafortress set 50 years in the past, with nothing left out.

I take that back: They did leave out speed and playability. I can't adequately convey how painfully slow and unresponsive—and hence, how confusing—B-17 is even on the fastest machines. I've also heard a number of complaints about problems with hard-disk installation—one of the eternal verities in dealing with MicroProse UK's games, and especially galling in a game that really needs an HD—and of crashes (the Amiga kind) during play. An improved US version has been canceled, but maybe we can coax them into distributing a path for this UK edition: Otherwise, we're looking at MP's worst Amiga game since Kennedy Approach.

Global Gladiators

B+	1.3 ✓ 2.0 – 3.0 ✓
Not hard-drive installable. Copy-protection.	

I suspect most of us wouldn't build our software collections around games licensed from McDonalds any more than we would, say, build our glassware collections around Flintstones mugs from Burger King. But Global Gladiators (*Virgin UK*, about $35), the second in a series of platformers affiliated with the 1-bazillion-served folks, happens to be quite good—a major improvement over the rather broadly executed debut, McDonald's Land. The graphics are lustrous, the animations are detailed, the enemies are squishy and disgusting, the player sprites speed demons, and Mickey D's connection—kids named Mick and Mack collect tiny double arches—is hardly offensive.

Beyond that, the bonus game is based around recycling, so this has at least a little social responsibility to balance the burger marketing. And I've managed to get through this without making even one joke about secret sauce. Yes, I think I will have some fries with that.

Woody's World

A–	1.3 ✓ 2.0 ✓ 3.0 ✓
Not hard-drive installable. Copy-protection.	

Publisher *Vision Software* claims this wonderful Super Mario World variation (about $35) is the biggest platform game on the Amiga. I don't know how they judge these things—fill 'em up with water, maybe—but I can well believe it. The levels I played went on way past midnight—cute as buttons, full of secret areas (and secret areas within secret areas), well made, and all done up in that burnished Amiga style we've all come to know and love.

Of course, the compelling thing about Super Mario World wasn't the graphics—which were barely a notch up from 8-bit days—but a sense of not knowing what was coming next. In Woody's World, you do. That's the thing about being the biggest kid on the block: You can always see him coming.

Universal Warrior

A–	1.3 ✓ 2.0 ✓* 3.0 ✓*
Not hard-drive installable. Copy-protection.	

Galactic Warrior Rats

A–	1.3 ✓ 2.0 – 3.0 –
Not hard-drive installable. Copy-protection.	

The operative word with these two European budget releases isn't "warrior" but "Paradroid." That thinking man's maze game launched a dozen clones (not the least of them being Paradroid '90, Alien Breed, and Cytron). Everybody, it seems, loves pushing switches without first knowing their effect, solving little puzzles of timing or speed, tapping into consoles to access maps, picking up keys to doors they haven't seen, and moolah to buy intimidating weapons with no questions asked.

All that good stuff is very much in evidence here. If you're already familiar with the genre, get both UW (*Zeppelin*, about $15) and GWR (*Summit*, about $17); they're meat and potatoes. If not, get UW: It's a slightly-silly, complex toy somewhat akin to Oxyd, with a delightful set of between-level options. (You can even buy insurance!) The latter's more faithful, serious, colorful...and considerably tougher. But be warned: If you taste one, you'll probably wind up with both.

Reach for the Skies

B	1.3 ✓ 2.0 ✓ 3.0 ✓
Hard-drive installable. Off-disk copy-protection.	

This is what Their Finest Hour should have been back in 1990. Rowan Software—the folks behind the Amiga versions of Falcon and Flight of the Intruder—have built their own flight simulator/strategy game around the Battle of Britain, and it's a solid one. Reach for the Skies (*Virgin UK*, about $35) is fast even on a machine of modest abilities, and it does everything you'd expect a flight sim to do in terms of replays, planes to

To locate vendors of the games reviewed, see the "Manufacturers'/Distributors' Addresses" list on p. 108.

fly, external views, and scenery. (Not to mention that you can play either side, and fight the game out as a war as well as a battle.) What it lacks is dazzle. Somehow, RFTS already seems dated.

Scrabble

B–
1.3 ✓
2.0 ✓
3.0 ✓
Hard-drive installable.
No copy-protection.

Much better than the old and irritating Leisure Genius edition of this celebrated word game, which looked pretty but played dumb (it didn't have much of a vocabulary). This one from *U.S. Gold* (about $35) knows far too many seven-letter words to suit me and has a nice selection of options (12 skill levels for the computer opponents) to set things up to your liking. It's not the ultimate Scrabble game, but it's much more mature than its predecessor and should be a fair substitute if your usual board game partners are snowed in some evening.

Strikes 'N' Spares

A
1.3 ✓
2.0 ✓
3.0 ✓
Hard-drive installable.
No Copy-protection.

You know the sort of strike in bowling that's so perfect that the pins just seem to explode all at once? That's Strikes 'N' Spares (*Beyond Entertainment*, $49.95)—the first real Amiga bowling game, and a pip at that. (The only other attempt I can recall is a segment in Mindscape's Indoor Sports, which turned bowling into a joyless chore.)

I love this game. It's extremely easy to get into. You can either "roll" the marbled blue ball manually with the mouse or a trackball or just position your ball, click the mouse once to set off an aiming arrow and again to let go. (Setting for curve and speed are also available.) The digitized sounds and pin action are nifty, as is the scaling of the ball. Eight people can play (making it a good party game), and the program maintains a simple database that includes each bowler's high and low scores and average. More incredible, S&S manages to incorporate the substantial challenges of real-life bowling. I used to be a pretty decent bowler, but it took me 30 or so games to reach 201.

I've played 130 s[illegible] then and am going strong—reaching 201 twice more—and there aren't that many games I play 160 times without a damn good reason.

I can think of a few features that would make the planned upgrade more the bowling simulation it's described as being in the docs than the fast-paced game it is: computer opponents, pin set-up editing, handicaps, a choice of ball weights and colors, and maybe an animated pin resetter and ball return. But features do carry a certain weight with them, and, as it is, Strikes 'N' Spares is the perfect airy entertainment. Even if author Kirk Bonner leaves it alone, he's already done us proud.

Beastlord

B+
1.3 ✓
2.0 ✓
3.0 ✓
Not hard-drive installable.
Copy-protection.

Ah, nothing I like better than a Shadow of the Beast clone. Especially a good SOTB II clone like this one. Beastlord (*Grandslam*, about $35)—which began life as Thalamus' Beastmaster—evokes that seminal Psygnosis arcade-adventure right from the brief but lovely intro animation, piping music, and ►

the levels of grim graphics moving in parallax. Then it surpasses it.

This isn't simply a look-alike, like Empire's Deathbringer from a couple of years back; it makes the transition to adventure game that SOTB never quite completed. For one thing, you are permitted to move laterally—into and out of the screen—as in games like Golden Axe, meaning you can better get the drop on enemies (or avoid them entirely). For another, a click on the right mouse button summons a screen-top icon bar, and further clicking here permits you to talk extensively with residents, drop, give and trade objects, cast spells, and even save your game. And the menu's presence doesn't prevent the game from proceeding apace, so you can keep it handy in tense situations. On the downside, this lacks SOTB II's varied terrain, and I wish the artists had lavished as much attention on the foreground as on the background; the sprites are messy and the animations are simple.

Battle Isle '93: Moon of Chromos

C+
1.3 ✓
2.0 ✓
3.0 ✓
Hard-drive installable.
Off-disk copy-protection.

Not to be confused with the Battle Isle data disk issued last year. Oh, never mind: Go right ahead and confuse this stand-alone game with the scenario disk, as it's simply more of BI to tide over the fanatics until Battle Isle II appears in early '94. (You'll love that one: It puts History Line's combat sequences into a Carrier Command-like 3-D world.) You know the deal with this: new terrain, units, maps, and 32 new scenarios (24 of them single player), and no enhancements to the game system proper, which is still slick and playable enough to make this better than a rip-off. But this is the third tug on the Battle Isle teat, and I expected at least a new feature or two to tease the new system.

Nick Faldo's Golf, NTSC version

A–
1.3 ✓
2.0 ✓
3.0 ✓
Not hard-drive installable.
Copy-protection.

The original European take of this superb *Grandslam* game (about $45 list) must have had Amiga golfers in the US on their feet—both to applaud and to peer down the cowl of the monitor in an effort to view the full PAL screen. This version recast for NTSC machines, which runs without aid of a PALbooter, restores those clipped-off portions and appears to have eased up the difficulty a bit. Or maybe I'm just getting better. (Alas, NTSC-compatible doesn't mean hard-disk installable, which would have made it just about perfect.) ■

THE WORST GAMES OF ALL TIME

To borrow a phrase or two from music critic Robert Christgau: If your relationship to Amiga games is anything like mine, you are either very rich or very weird...or you're a big-time pirate. I get to see virtually every Amiga game released in this country and around 95 percent of the worthwhile stuff from overseas, and it's been good training: I've learned to smell a dog a mile off. And, man oh man, have I ever smelled some dogs. Howling dogs.

Here's my "equal time" response to December's favorite-games lovefest: The worst Amiga games of all-time. To play them is to suffer.

Bionic Commando *(Capcom)*: Went straight into the we'll-pay-you-a-buck-to-take-it bin. Cutesy platformer with god-awful controls.

Blue Angels *(Accolade)*: At best, this curious formation-flying game was before its time. At worst, it begs the question: Flight sim or slideshow? My guess: Slideshow. It's so slow on stock Amigas, you won't know the difference.

Chuck Yeager's Advanced Flight Trainer 2.0 *(Electronic Arts)*: A lowlight of EA's "difficult age" —post-our commitment to the Amiga period and pre-well, uh, it's actually our European branch that's committed to the Amiga period. Ugly, slow, impossible to control, palette-ically incorrect. It's difficult to tell even what you're looking at.

Crazy Cars *(Titus)*: From the sometimes interesting but mostly notoriously inconsistent French label ("If it's by Titus, you never know quite what you're getting.") My car frequently hops like the ones here, and the local roads all have horizontal stripes on them.

Deep Space *(Psygnosis)*: Utterly incomprehensible, uncontrollable space opera.

Flight Path 737 *(Anco)*: Crashed on takeoff.

International Championship Athletics *(Hawk)*: There have been lots of impoverished waggle-that-joystick-mutha sports games, but this one takes the stale cupcake. It's positively wooden, Thunderbirds-go-to-the-marionette-track-meet stuff.

Kennedy Approach *(MicroProse)*: This air-traffic-control game was (with the likewise unluverly Airborne Ranger) one of MicroProse's first efforts for the Amiga. We're just lucky nobody important played it, or it might have been the last.

Master Ninja: Shadow Warrior of Death *(Paragon)*: Incompetent beat 'em-up that makes you feel slightly out-of-phase with the rest of the world. Push the joystick, then wait 3-5 seconds for your character to make his move. It makes Way of the Little Dragon look like a timeless classic.

Night Walk *(Alternative)*: Ranked by badness, this would have been at the top of the list. A desperately ugly attempt at Ghosts 'n Goblins.

Pac-Land *(Grandslam)*: Trash port of the arcade game that tried to turn Pacman into a sideways scroller. Bad idea, and awful conversion.

RBI Baseball 2 *(Domark)*: There aren't many baseball games on the Amiga, but this UK production is indisputably the worst, and that includes GameStar's ancient Championship Baseball. It's as though the designers had come over to the States to pick up the feel of the game, but got all absorbed by the stadium's fancy scoreboard instead. Hence, this travesty has neat scoreboards...and absolutely nothing else to redeem it.

Red Zone *(Psygnosis)*: One of the nice things about being as big as Psygnosis is the opportunity to take some interesting chances; not everything has to be a Lemmings II. Sometimes the chances pay off critically—as with Nevermind, Cytron, and Ork—and sometimes they miss (as in Spellbound). However, the concept of "missing" doesn't quite do justice to this, quite literally, hell-on-wheels motorcycle racer, which basically consists of piling into and peeling yourself off a series of polygon barriers.

Ski Or Die *(Electronic Arts)*: Snow-capped spin-off of EA's 8-bit Skate or Die. EGA lives. Dying would be preferable.

Sky Blaster *(Digitek)*: Pokey 3-D flying/shooty thing in the Thunderstrike vein that walks instead of runs and feels about half-finished.

S.T.U.N. Runner *(Domark)*: The arcade machine of this tunnel-vision shooter was an absolute joy. The version for the Amiga—in principle the perfect machine for the game—was tragic: slow and lacking in detail.

Sub Battle Simulator *(Epyx)*: A bitter argument for play testing. Is that a feature, or is it just another bug?

Vader *(Softgang)*: My designated scapegoat for a host of play-alike, lower-than-low-level vertical scrollers from post-A500 '80s, when everyone thought he/she could write a game, and everyone did.

War in Middle Earth *(Virgin)*: Developer Synergistic Software went on to do much better stuff—the two Excalibur games and especially Conan the Cimemrian—but I'll warrant this one still haunts their dreams. A classic example of good looks taking precedence over gameplay. (I beat it inside of 15 minutes.) And it wasn't even that good-looking. ■

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From p. 23.

Also, the supplied Profiler tool allows you to analyze where your program spends most of its time processing.

Faithful to the credo of programmers' documentation, the 130-page manual serves strictly as a reference, not as a tutorial. Unfortunately, there's no index, and while there's a table of contents, its entries are not in alphabetical order, making it difficult to locate information.

PROGRAM COMPLETE

On the program's downside, you'll find in some of the supplied executables a bug that trashes the menu bar if a screen font taller than eight points is used. This problem surfaces in the file requester and the assembler's Intuition front end (M68Iface), but not in Macro68-Help, the hypertext help browser bundled with the package. On the other hand, nice touches include no service charges for customer-support calls and a prepaid self-addressed registration card.

My few gripes aside, I do like this assembler. Macro68 is fast and flexible, makes good use of the new improved Motorola syntax, and is supported by an established US Amiga software distributor. What more could an Amiga programmer ask for in an assembler?

—Darius Taghavy

RPAINT

***MegageM*, $79.95**

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***Recommended system:* Same as minimum.**

ARexx-controlled paint program.

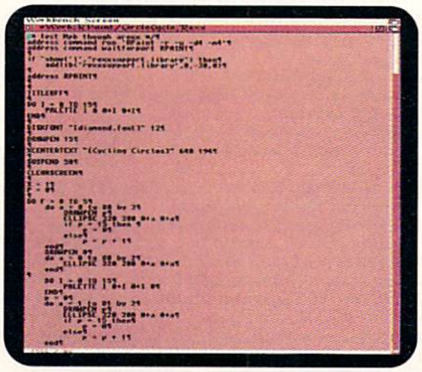
Every once in a while I receive a product for review that poses more questions than it answers. RPaint, a new Amiga paint package from MegageM, is one such. It's not a paint program in the usual sense, having somewhat of a public-domain air about it, but its strong suit is that it's an interactive, ARexx-programmable program. This means that through an ARexx script you can externally control almost every feature RPaint offers. The idea is to create eye-catching presentations and create an ARexx-friendly, graphic-display environment.

PAINT BY NUMBERS

You can launch RPaint via the CLI, from an ARexx script, or from Workbench. Started from a CLI or a script, the screen mode, resolution, and color parameters are passed via the command line by previously set flags or switches. If launched from Workbench, a requester appears with options for screen resolution, colors, and other display settings, including a screen mode that displays RPaint on the Workbench screen. That mode, however, proved subject to occasional instability on an A4000/040.

RPaint supports up to 64 colors in all standard Amiga resolutions, including SuperHires (requiring an ECS or AGA chip set). You can specify screen sizes from 320x200 up to 16000x16000, although the large virtual screens require a 2MB Angus graphics chip. RPaint does support AGA, but you are still limited to 16 colors in Hires. The program does not support HAM or traditional non-Amiga graphics modes such as GIF and Targa.

The look and feel of RPaint's main program screen falls under a "no-frills" heading. There are no tool bars, command



RPaint's ARexx macros at work.

icons, or anything else to differentiate RPaint from a normal Workbench screen (*sans* disk icons). Functional file requesters that might be described as "semi-standard" complete the scene.

Every paint tool and feature is accessed via three drop-down menus. The first one deals with saving, loading, or printing graphics files. The second and third menus are where all the program's tools and environmental controls are located. To its credit, RPaint's tool selection, though scant, will get most jobs done. There are provisions for drawing lines, boxes, ellipses, circles, and so on. In addition, allowances are made for text entry and font loading, as well as commands to fill or draw with various fill styles.

Although you can create brushes and load or save them, there is no way to rotate or scale the brushes, nor can you make on-the-fly color changes of selected brushes. Also, without a keen working knowledge of ARexx (which lacks graphic commands), you have no arrangement for using gradients of any kind—all fills are accomplished according to the selected foreground color and fill pattern.

As previously stated, RPaint can be controlled externally via scripts. By sending various commands through its ARexx port, you can control the program as if you were using a mouse. Although RPaint's commands seem rather simplistic, drawing complicated screens can be a daunting challenge—especially considering the lengthy ARexx code required to draw even the most rudimentary image. Thankfully, RPaint comes with a set of macros to demonstrate many ARexx possibilities.

It also offers a "record" function, which, when activated, records every move you make while using RPaint and automatically generates an ARexx script. When launched, the script will duplicate the work you accomplished while the record function was active. Incidentally, while its ARexx scripts control displays, don't expect to access RPaint features through other programs' ARexx ports.

ARexx programmers will no doubt delight in RPaint's ease of use and flexibility. In the hands of a talented programmer, RPaint can be useful for generating scrolling displays, presentations, and large virtual screens. While multimedia packages might be better suited for this, there's nothing else that's competitive in RPaint's price range ($80).

While recording and playing back RPaint scripts is fun and rather novel at first, programming experience with ARexx is mandatory for producing professional displays, so I'm hesitant to recommend RPaint for the serious artist who has little or no knowledge of ARexx. Devoid of features usually found in other standard Amiga paint packages, RPaint has the look and feel of a slick public-domain paint program. In other words, don't expect a DPaint in RPaint's clothing.

—John Ryan ■

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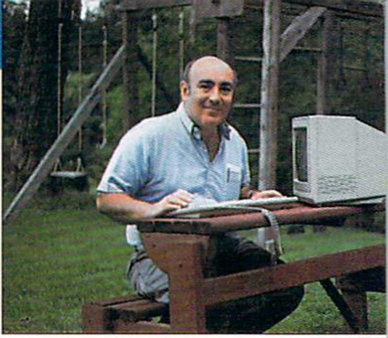
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Travels With Amiga



Loren's constant traveling companion is an Amiga 2000, with which he produces a quarterly publication entitled *Heartland Highways.*

Loren Eyrich prefers the road "less traveled by"—literally and figuratively.

When the fortyish Florida transplant grew weary of corporate life working as comptroller for America's largest Chevy dealership, he filled up the gas tank in his camper, strapped on his driving gloves, and hit the back roads. And, he's never looked back.

For the past two years, Loren "Two-Lane" Eyrich has logged more miles than Carmen San Diego, traveling back roads from Portland to Pensacola and from Corpus Christi to Charleston. He has faithfully documented his exploits in a self-published newspaper called *Heartland Highways.*



King of the back roads, Loren Eyrich spends six months of the year in this tiny motor home, affectionately named COW (Condo on Wheels).

Following in the tire tracks of such notable road warriors as Jack Kerouac and Thelma and Louise, Loren is living the dream of those who aspire to take to the road.

After 19 years, Loren shed the trappings of big business. Now, more often than not, he goes to work each day wearing shorts and sneakers. And, his directive is simple: Plan an extensive trip (up to six weeks) at least four times per year; gather stories about the interesting people, events, and places you encounter; and then return home to print the newspaper. The monetary rewards may not be much, but Loren says, "there's nothing I'd rather do."

AMIGA AND A COW

His lone traveling companion is an Amiga 2000, which assists him in chronicling his roadside adventures. The Amiga, which has proven as reliable as a detailed road map, is snuggled neatly in his camper and is a necessity in publishing his *Heartland Highways* quarterly, which is a one-man (and one-computer) operation. He's responsible for the writing and page layout, production, and even mailing.

The Amiga is the "logical choice if you're going to take along only one computer," says Loren, whose tools include ProWrite (to write the stories) and PageStream (for desktop publishing). He also uses the Amiga to record expenses and maintain a database. "The Amiga equipment and the right software help me attain a quality look to the publication."

This peripatetic publisher, who sets out on a new adventure about as frequently as the seasons change, has logged over 40,000 miles and has traveled the lengths of such routes as Highway 41 (from Miami to the shore of Lake Superior), Lincoln Highway (from New Jersey to Nebraska), and the Appalachian Highway of US 19. He claims he "never knows where he's headed until he leaves."

Loren is driven—in search of small-town America and a place to park his oversized pickup—aptly referred to as COW (Condo on Wheels)—featuring a bicycle affixed to the front and a row boat on top and weighed down with other necessities of road travel, including air-conditioner, microwave, refrigerator, and TV. At the end of a day's traveling, Loren will often check in at an out-of-the-way campsite, where he types his recollections and musings into the Amiga 2000.

YESTERYEAR AND TODAY

If *Heartland Highways* proves a stark contrast to those high-gloss travel magazines that profile beautiful people and exotic locations, then it's because it has a different purpose. Through his humor and personable style, Loren attempts to "bring a smile to your face and a warm feeling in your heart."

Always on the lookout for a clever phrase, he can spot an interesting road sign miles away (such as the classic "Eat Here and Get Gas"). Photos of unusual mailboxes, witty bumper stickers, and amusing storefront ads ("Suits Pressed in the Rear") also populate the pages of *HH.*



It's this folksy, down-to-earth humor that gives the publication much of its appeal to readers, who vicariously experience the thrills and headaches of US travel east of the Rockies. Full of local lore, historical facts, and profiles of some interesting plain folk, *HH* offers one man's slightly askew view of life on the backroads of America.

Loren is especially at home in the smaller towns, where "you can spit a watermelon seed from one end of the town to the other." Towns that are off the beaten track, like Dry Tavern, Pennsylvania, or Yeehaw Junction, Florida. The trick, he says, is to "uncover the story that each town has to tell."

And Loren does it very well...whether he's relating the story behind the world's smallest police station or profiling a reluctant outhouse collector. Loren is a throwback, trying to capture a bygone era...of Burma Shave signs, carhops, and 27-cents-a-gallon gasoline. (For an $8, subscription, write to: *Heartland Highways*, PO Box 23518, Fort Lauderdale, FL 33307.)

A highly principled traveler, Loren adheres to his own code, which eschews the use of interstate highways, franchise restaurants, amusement parks, and five-star facilities. According to Loren, these represent a boring way to travel and offer no surprises or opportunity to capture the local flavor of life on the back roads.

"And that," as poet Robert Frost would say, "has made all the difference." ■ *—DB*

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HELP KEY

Does anyone know the track of Hurricane Amiga? Plus, the benefits of copying to your C directory...and more.

By Tim Walsh

Amiga Storm Watch

Q. *Years ago, one of my favorite Tandy TRS-80 computer programs was Hurricane Tracking Map. This program tracked hurricanes from Texas to the coast of New England. I've not seen a similar program for the Amiga. Does one exist?*

R. Markley Groff III
Upper Darby, Pennsylvania

A. After uncovering only a few IFF screens of storm and hurricane weather maps, and a surprisingly complete Amiga public domain program for tracking satellites called Sat Track 3.0, I was about to call off the search for an Amiga hurricane tracking program. Luckily, I recalled an alternative procedure that is accessible by your Amiga. It's so effective, it can be blamed for making these weather tracking programs obsolete.

If a storm is brewing and your Amiga is equipped with a modem and a CompuServe (CIS) account, you can retrieve timely (up-to-the-hour) reports on-line. At virtually any CompuServe prompt, just type "Go Weather" (AutoPilot users can download auto-updating Weather Forum macros from CIS's AmigaTech forum). Ten different weather directories exist in this forum, including one called Severe Weather Alerts. A variety of computer graphics are also supported, ranging from 16-color 640x480 to 2-color 320x200 resolution maps. Be forewarned that you'll need an image processing program to convert the graphics before use.

Genie also offers a weather report called Daily Weather Maps. Though it's not quite as comprehensive as CIS's, it does provide frequently-updated weather conditions. One of the nice things about these on-line "weather channels" is that you can use any computer to access them, including a modem-equipped laptop when traveling.

Decruncher Diffusion

Q. *I have some file decrunchers for my Amiga 500 that I was told needed to be copied to my C directory. What is the procedure and commands needed to perform this task? Furthermore, I cannot successfully install Directory Opus on my two-floppy drive system. I get the error message "Arp.library needed." Do I need a hard drive?*

Robert Jolicoeur
Ontario, Canada

A. Decrunchers, more commonly called file archival programs, both "decrunch" and "crunch" files. Copying these utilities to your C directory is a good idea. While they can reside in any directory, the benefit of storing them in the C directory is that they can be launched from any Shell command line without first locating *which* directory they reside in.

Copying the files can be a chore, given the constraints of your dual-floppy drive system. First, boot the system with a copy of your Workbench in df0:, then place a disk containing a copy of the archival programs in your df1: drive. Next, double-click the Workbench disk icon to reveal the Shell icon. Double-click that icon to open a command line window. On the command line, type the following to find the name of the archive programs to copy:

Dir DF1:

All of the files will be listed to the screen. Write down the names of those to copy. If the list scrolls past too quickly, hit the spacebar to pause and the backspace key to resume. When ready, type the following:

Copy DF1:{archival program}**SYS:C**

In the above example, the name of the archival program may be Lharc, Zip, Zoo and so forth. The process should only take a few seconds. To test your success, remove the disk from df1: and type the name of the archival program at the command line. If all went well, you should see a list of usages and command syntax for the archival program.

Moving on to your second question, Directory Opus can be operated from a dual-floppy disk system, although not as effortlessly as from a hard disk-equipped system.

To begin, make a copy of the Directory Opus disk from the Workbench. Place its disk and a blank disk in the drives, then drop the Directory Opus icon onto the blank disk's icon. A number of disk swaps may be necessary, as you'll be prompted to insert and remove both the Workbench and Directory Opus disks a number of times during the copy process.

A request for the arp.library is a sure sign you're using AmigaDOS 1.3, since later versions of the OS use the asl.library. One of the last versions made of arp.library was version 39.1—a 17K file requester library. You may find it included with many older programs that used file requesters. Just check some of your other disks by booting the system with Workbench, placing a disk in df1:, opening a shell, and entering:

CD DF1:Libs

then type,

List

If you find it, enter the following to copy it to your Workbench:

Copy DF1:Libs/arp.library SYS:libs

Once you've gotten a copy of Arp.library on your Workbench, Directory Opus should work just fine. Best of all, with the exception of PKaZip, it will also directly access any of the archival programs that you copied to your C directory, too. ■

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WB127: Blankers - Over 20 different screen blankers. Most run on Workbench 1.3+...a few require 2.0+
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FD87: OXYD- A commercial quality game--similar to Marble Madness in nany ways, but allows two computers to link & play together...see how many of the 200 landscapes you can complete without having to get the hint book!
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FUN DISKS

FD6: GAMES! - This disk is chock full of games including; Checkers, Clue, Gold - A new slide the pieces puzzle, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.
FD7: Pacman - This disk contains several pacman type games including; PacMan87, MazeMan and Zonix.
FD10: HackLite - A dungeon adventure game. Considered a must-have classic. This is the 2nd release of this game. Great graphic interface. Play time several weeks!
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FD17: Educational Games - This disk includes several games for youngsters including geography, math, science, and word games, also includes Wheel of Fortune.
FD20: Tactical Games - MechForce; A game that simulates combat between two or more giant robots. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.
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FD32: Flight Simulator - An instrument simulator for a DC10.
FD33: Arcade Games - Ffreddy a Mario Brothers type of game, Gerbils a target practice game, PipeLine a German interpretation of Pipe Dreams, Tron a light cycles version, and Wetroids a wonderful version of asteroids with a hilarious twist.
FD35: Omega (v 1.3) - An outstanding dungeon and outdoors adventure game in a similar vein as hack, rouge, and moria. This version is considerably faster and better that all previous versions. Play time: weeks.
FD38: Games - Cribbage Master - A great cribbage game and tutor, Spades - a well done card came, ChineseCheckers - A computer version of this classic, Puzz - a slide piece puzzle game and construction set.

WB105AB: Workbench 2+ Extras #2

This set contains the programs that should have been included with WB2+. These powerful utilities take full advantage of the many new capabilities that are available in Workbench 2+. Includes: Tool Manager - a wonderful utility to add programs to your TOOL menu, Virus Protection - Degrader, Icon - Enhances Workbench's "Show All" to display over 40 distinct icons for different types of files. Bitmap Font Editor, Screen Blankers - ala fractals and spliners and swarming bees! Requester Enhancers and CPUBlit. Two disk set, counts as two.

FD39A&B: Star Trek, The New Generation - This is a completely different version of Star Trek than that found on FD12. This one was created by the German author Tobias. Excellent!!! Counts as two disks. Requires 512k
FD50: Submarine Game - Sealance, one and a half years in the making, this is an outstanding submarine tactical game. Commercial quality, highly recommended.
FD57: Arcade Games - Includes 2 truly commercial quality games. MegaBall, an Arkanoid-ish game, features 5 musical scores and addicting gameplay. Gravity Attack is a psychadellic trip through several different worlds—each different.
FD59: Game Potpourri - Xenon III is an almost exact clone of the commercial game of the same name...a great shootemup. Crossword will take lists of words & automatically generate word-search puzzles for any Epson compatible printer.
FD60: Games - In Nebula, race over a 3d world to destroy enemy installations. Interferon; a *great* Dr. Mario clone. Enigma; is it a game or puzzle?
FD61: Games - Solitaire; great graphics, plays two versions. Klide; an interesting piece of eye candy. Extreme Violence; 2 player kill or be killed game. YATC; A Tetris clone with Artifical Intelligence. Genesis; create realistic 3d fractal worlds.
FD62: PomPom Gunner. An extremely smooth and well done World War II gunner simulation. Req. 1 megabyte of memory.
FD64: Games - Wizzy's Quest - a "great" 50 level game with great graphics, Cubus - a 3-dimensional Tetris type game (rotate and move in 3 dimensions). Husker Du - Colors and pattern rather than shape in this Tetris-esque game; 5 screens and 3 levels of difficulty. Requires Fat Agnus (1 Meg of Chip)
FD67: Arcade - Includes Llamatron a well-done 'Robotron' clone. Hate is a "terrific" Zaxxon clone with multiple levels/worlds and smooth diagonal scrolling...a 10!
FD69: MindGames - Had enough of shoot-em up games? Relax and let these 21 games exercise your mind instead of your wrist.
FD73: Arcade Series - Intruder Alert! is a MULTI-level "Berserk" clone. Features smooth gameplay, great graphics & digitized sound f/x.
FD74: Arcade Series - RingWar is an "Outer Limits" clone with vectorized graphics. MotherLode is a "Lode Runner" clone with 50 levels! In BlitzTanks, they're coming at you from all directions!! Call in air strikes and use your heavy artillery to survive!
FD75: Arcade Series - Descender is a clone of the classic arcade game "Tempest"; complete with vectorized graphics. Tanx is the classic battle of trajectories and inertia between two tanks—incredibly well done! Search is a maze game unlike any other—included is a level editor too. (Tanx requires 1 meg chip memory=Fat Agnus)
FD77: Arcade Series - Galaga'92 is a clone of the arcade game with several gameplay enhancements--with smooooth, sharp graphics, it's better than the original! Pharaohs Curse is a clone of the original C64 classic. Diplomacy is a beautifully computerized version of the Avalon Hill board game--conquer or be conquered!

THE AMIGAWORLD "BEST-OF" SET!

FD85ABCD: AmigaWorld's Best - These four disks contain the *hottest* p/d games of '92! Includes Mother Lode, Moria, Minefield, Poing, Intruder Alert, Deluxe PacMan, Rocky and Super Artillery (see Dec. '92 AmigaWorld) Four disk set, counts as three.

FD81: SuperGames - Some of *the* best games--Donkey Kong is better than the original *with an extra level!* Frantic Freddie and TrailBlazer are both fast-paced arcade games. Mad Bomber is the classic game of "Kaboom" redone with an Amiga flare. All of these games are excellent!
FD82: Intrepid - In the Arctic ice, you control a tank on a mission to rescue hostages in this superbly crafted Amiga original.
FD84: Games! Deluxe PacMan is better than the original--20+ mazes, special "power-ups" with *oustanding* graphics. ThinkAmania is the classic game of concentration--with *beautifully* drawn HiRes images.

WORKBENCH DISKS

WB4:Telecommunication - This disk contains several excellent pd communication programs: Access 1.42, Comm 1.34 & Handshake 2.12a. See also WB102 & WB115.
WB5: Fonts #1- 35 bitmap fonts. Also included are five PageStream fonts,and ShowFont - a font display program.
WB6: Fonts #2 - ShowFont allows you to quickly and painlessly view all 256 characters in a typical font. Includes large AmigaDos system fonts (many up to 56pts).
WB7: Clip Art - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US and State maps, and more.
WB9: Icons - Truly a multitude of various types and kinds. Also includes IconMiester, IconLab, and others great utilities to help generate icons.
WB12: Disk Utilities - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery archive and organizing, and all sorts of file manipulation. A must have!
WB13AB: Printer Drivers and Generator - over 70 different drivers (including HP LaserJet 3 & 4!), also includes a printer-driver generator. Two disk set counts as two.
WB15: Business - This disk contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).
WB18: Word/Text Processors - This disk contains the best editors. Includes,TextPlus (v2.2e) a full featured word processor, Dme(v1.35) a great programmers editor with strong macro features,TexED(v2.8) an enhanced Emacs type editor, and a spell checker.
WB22: Fonts #3 - Several more great fonts. These, like the other font disks work great with Dpaint and WYSIWYG word processors.
WB23: Graphics and Plotting - Plot, a 3-D mathematical function plotter. Can plot any user defined function, BezSurf2 - produce awesome pictures of objects one could turn on a lathe. Can also map IFF image files onto any surface that it can draw. Now compatible with most 3D packages, and VScreen - makes a virtual screen anywhere.
WB25:Educational - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's data base to generate detailed maps of any entered user global coordinates. Also Paradox a great demonstration of Albert Einstein General Theory of Relativity.
WB27: Nagel - 26 Patrick Nagel pictures of beautiful women.
WB33:Circuit Board Design - several terrific routines for the electronic enthusiast, Including PCBtool - a circuit board design tool, LogicLab - circuit logic tester, and Mcad (1.26) a well done new release of this PD CAD program, now comes with predrawn common circuit components for insertion into schematics.
WB35: 3D Graphics - This disk contains 3Fonts - Full vector font set for use with 3d programs, FontMaker - make 3d fonts from any system font, Make3DShape - create 3d shapes from any image, DumptoIFF - create 3d animations preserves pallet, World3d - a demo of a front end for use with DKBRender.
WB36: Graphics - On this disk are several programs to create stunning graphical images including, MPath - creates swirling galaxy images, Roses - produce an unlimited number of variations of images that a symmetrically similar to a rose, SimGen - display those spectacular images as part of your workbench, and RayShade - a very good raytracing program, create your own beautiful 3d graphic models with this one!
WB37: Educational - Educational games and puzzles that cover math, geography, spelling, and books. Ages 6 - 15
WB38: Plotting and Graphics - Plotxy is a powerful full featured plotting package. Used by many colleges and universities. Highly recommended. Plans - a incredibly well done Computer Aided Drafting program, very full featured. Tesselator - a program that helps generates fantastic looking, recursive M.C. Ecsher type pictures.
WB41: Music - MED an incredibly well done, full featured music editor. Create your own stunning music directly on your the Amiga. Similar to SoundTracker but better. Very powerful easy to use program. Version 3.20--compatible with WB2+.
WB43: Business - This disk contains AnalytiCalc - probably the most powerful spreadsheet program on the Amiga. A full featured spreadsheet with many features expected in a commercial package. Req. 1.2 MB

SPECIAL PRODUCT • NEW RELEASE!!

QT3: THE A64 PACKAGE *VERSION 3* - A very complete Commodore 64 emulator. Supports any CPU and is fully compatible with WB1.3 & 2.0 and now 3.0! This version includes a special adaptor that will allow you to connect your 64's 1541 disk drive to your parallel port of your Amiga for total emulation. All-new transfer software! Special price $59.95 -with hardware.

WB46: Clip Art - HighRes clip art with the following motifs - embellishments (borders, dodads ,...), people, & transportation.
WB47: Clip Art - Hires clip art. Motifs - hair, drafting, summer, animals and macfood.
WB48: Clip Art - Hires clip art. Motifs - Holidays, music, medical, and misc.
WB50: Animation - Seven of the best euro-style animations or "Demos", including - scientific 451, subway, sunride, thrstdemo, tnight, waves, and woow.
WB53: Graphics - Raytracing programs generate absolutely stunning realistic looking planes, rockets, buildings..., and surreal images. C-Light is the most powerful EASY-TO-USE of it's kind we have seen to date. This is easily better, and more full featured, than similar commercial programs costing in the hundreds of dollars. Also, sMovie - a full featured video text titler similar to ProVideo, Broadcast Titler. Great video scrolling, wipes, special effects, and more...
WB54: Printing - This disk contains several routines to help with the chore of printing. Includes Gothic - Finally a Banner printer for the PD! PrintStudio -a well implemented all-purpose printer-utility with a very comfortable graphic interface and many advanced features, Lila - with ease, print ASCII files to a PostScript printer, and more.
WB55: Application - XCopyIII - a full featured disk copier, make backups of copy protected disks. RoadRoute - find the quickest route from one city to another, highway description included. Diary - a diary program like "Dougy Houser M.D", Cal - a calendar program, Magman - a database tailored for articles and publications.
WB57: Animation - This disk has several "Demo" style animations, Including, Blitter, Lolly, Sun5, vertigo, vortex, and xenomorph.
WB62: Midi Utilities - Several useful midi utilities including, programs to transfer to and from several music programs to midi, a midi sysex handler, a midi recorder with timebase, display midi info, file sequence player, and a few scores.
WB63: Disk Utilities #3 - Several highly recommended programs to aid in removing duplicate files from your hard drive, performing file backups, Binary editing, fast formatting, file recovery, and forced disk validation of corrupt disks.
WB66: Icons #2- Lot's of neat icons. Also, several wonderful programs that to let you create your own icons, modify and manipulate icons and info structures.
WB69: Music - 90 minutes of classical and modern electronic music for you Amiga.
WB75: Music - over 100 instruments files (.inst) and sample sound files (.ss)
WB79: Home & Business Accounting - Includes Ckbacct - the most complete checkbook accounting program going. LCDCalc - this well done calculator has a very large display and operates from the keyboard or mouse, Mileage master - monitor your automobile mileage with this mileage log, Grammar - a grammar checker, and Worldtime - find out what time it is in up to 50 global cities.

WB119ABCDE: Font Set This collection contains over 100 typefaces for use with Professional Page/PageSetter 3+ or PageStream 2.1+. These fonts will output to any laser printer or dot-matrix printer with no jaggies, thanks to outline fonts. Very pro-looking. *5 disk set, counts as 4.*

WB81: Great Applications - DataEasy a very easy to use, database program. Don't let the ease of use fool you, this is a very full featured database program including full printer control for address labels and mail merge applications. Also includes, TypeTut a good typing tutor, RLC a full featured label printer, Banner, a multi-font banner maker, and Budget a home accounting in a program. Highly recommended.
WB82: Animations - Four full length, well done "movie" style animations. Including, Coyote, JugglerII, GhostPool, & Mechanix. 2 disks, counts as 1.
WB93: Workbench 1.3 Extras #2 Contains the utilities that Commodore should have shipped with the Amiga; VirusX4.0, Snap, FixDisk (recover corrupt/deleted files), Disk Optimizer (floppy & hard), MachIII (screen blanker, hotkey, mouse accel., macro, clock utility), GOMF (a gurubuster)and PrintStudio.
WB95: Checkbook Accountant 2.1 - Definitely commercial grade; we've seen many checkbook programs and this is the best. Full budgeting, transaction recording & report generation.
WB96: Dupers - Contains XcopyIII & Nib which will backup copy-protected programs. FreeCopy removes copy protection from several programs, and SuperDuper will crank-out fast AmigaDOS copies.
WB99: Lifestyles - Includes AGene—family tree program that tracks up to 600 people/marriages/etc. Landscape is a CAD program to create gardens/landscapes. Loom simulates an 8 harness loom; experiment with pattern design with instant feedback.

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WB102: Telecommunications - Contains the programs NComm 2.0 and VT100-29B. Zmodem protocols, XPR protocol support, full VT100 emulation. NComm's script language is so powerful it can create a full-featured BBS system.
WB106: Home Manager - This is a great all-in-one address book with an autodialer/notepad/to-do list/appointment scheduler/home inventory database and phone number dialer.
WB108: OctaMED - This breakthrough program doubles your Amiga's sound capabilities from 4 channels to an ear-popping 8 channels! All the renound editing capabilities of MED plus 4 more channels! If you thought your Amiga sounded good before...you aint heard nuthin' yet!
WB109: VerseWise - Display, search and print The New Testament.
WB113: Sid II - Why pay 40 bucks for a directory utility, when this one will do it all plus much more! A truly professional-caliber program. Sid 1 was our best, now *completely* rewritten, Sid 2 will astound you.
WB114: Fonts #4 - Contains 36 bitmap system fonts.
WB115: Telecommunication - If you have AmigaDOS 2.04+ and a modem, then this is *THE* program for you. Term *totally* conforms to the User Interface Style Guide for 2.04, has an ARexx port, and supports all popular file-transfer protocols through XPR libraries. We wish all programs were this good.
WB116: Databases - This is what you've been waiting for! Contains 5 uniquely specialized database programs for tracking: Videotapes, CD's, Magazine Articles, Comic Books and Trading Cards!
WB120: Grinder - a complete graphics conversion package that supports GIF's, JPeg, Neochrome, Degas, PCX, Targa, TIFF, HAM-E and IFF format pictures. An invaluable tool for all desktop-videographers and desktop publishers.

WB118: Amiga Beginner - *You asked for it!* A complete tutorial for the beginner on using the Amiga. Starts you off at the power-switch and takes you through to the CLI/Shell and all points in between. *Bonus!* Also included are 16-color icons to replace *every* icon in your 2.0+ Workbench.

WB121: ProPage3 Enhancer - This disk contains over 40 "Genies" for use with ProPage 3.0, including useful ones like Make Pie Chart and Resize Text to fit Box to name a few. Also includes structured & bitmap clipart for unique borders...a *must have* for all PPage 3 users.
WB122: System Optimizer - KCommodity enhances your system, gives memory meters, mouse/keyboard enhancements, online timers plus *many* others...too numerous to list! REorg will optimize hard and floppy-disks for a big speed increase. HDMem will allow you to use up to 2 megs of hard-drive space for virtual memory! (Req. 68020+ w/MMU) All programs recuire 2.0+.
WB123AB: Flags of the World - same as WB124, but for Workbench 1.3. Req. 1MB. 2 disk set, counts as two.
WB124: Flags of the World - Two modes: click and learn or a game to test your knowledge. Great graphics--fantastic learning tool. Has current Russia & Yugoslavia republics. Req. Workbench 2.0+ & 1MB RAM.

DEV DISKS

DD54: Compression - This disk is loaded with all of the best file compression programs and aids for the Amiga. Many of the programs can be used by the new user. Includes Arc, Lharc, Lhwarp, Pkax, PowerPacker a must have by all, Zip, Warp, and Zoo.
DD71AB: C Compiler - This disk contains DICE, Matthew Dillon's full featured, powerful C compiler & environment. 2 disks, counts as 2.
DD86: The Programmer - Includes GadTools and REQTools which will allow you to create your user interfaces and then the program will automatically generate "C" source code or Assembly-code. Requires, and writes code for, AmigaDOS2+.
DD89: UEdit - Probably *the* most powerful text editor ever written for the Amiga. Previously commercial, now public domain. Req. 1 MB.
DD91: ParBench - Allows you to easily connect/network two Amigas/CDTVs together and share storage devices. Req's custom cable (docs to make cable included--easy).
DD90: Advanced Utilities - CompressDisk doubles the capacity of your hard-drive on the fly with compression!!! Also contains: disk optimizer, SCSI mount utility, Keymap editors, Enforcer, Undeleter & more. Most programs require 2.0+.

VIDEO DISKS

VO9: Imaging - Included on this disk are the indispensible utilities, Rend24, ViewTek and the JPEG utilities. Rend24 is invaluable for 24-bit animators allowing for previews on AGA and non-AGA Amigas. ViewTek plays back anims of all sorts including Anim 5, 7 and 8 formats. JPEG utilities facilitate the transforming of IFFs into space-saving JPEG format.

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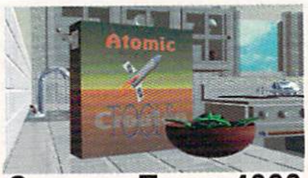
The only software-based PC-XT emulator with Super-VGA graphics*!
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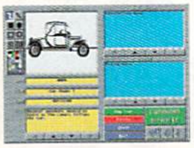
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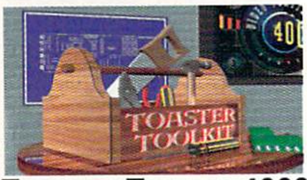
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Index to 1993 Articles and Reviews

Editor's Note: Individual entries in this index are presented under two major headings: Articles/Columns and Reviews. Articles/Columns are organized chronologically under the following subject categories:

- AGA
- CD-ROM/CDTV
- Cross-Platform Compatibility
- Fonts
- Games
- Graphics/Animation
- Hardware: Systems/Expansion/Peripherals
- Multimedia/Authoring Systems
- Music/Sound
- News/Profiles
- Operating System/Workbench
- Printers/Printing
- Productivity/Business
- Programming
- Public Domain
- Telecommunications/Networking
- Video

Reviews are organized alphabetically under the categories of Hardware, Software, and Games.

ARTICLES/COLUMNS

►

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AW Shucks!

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A41AM

THE LAST WORD

Kudos, complaints, comments, concerns, and contributions from our readers.

Toaster Turn Off

I have just read the November '93 issue of *AmigaWorld*. You have now printed two large reviews of the Video Toaster 4000 in the last four issues. I know the Toaster is an incredible piece of equipment for the Amiga, but it is not the second coming. I commend you on printing the opinions of your readers good or bad. If you would start reading those letters you would notice a great deal of people asking for help and tips for their Amigas. Your November articles on 3-D animation took a great leap in providing some tips and definitions of terms. However, with the exception of Joel Hagen, articles of this type seem to be few and far between in your publication. Do not misunderstand me, the Amiga shines in the areas of video, graphics, and sound. Many people, myself included, use it for such applications. There are many magazines that deal in these areas and I subscribe to them also. Your magazine is one of the last to fully support the Amiga. Please do not isolate your readers by getting too specialized. We don't all produce TV shows.

Thomas Healy
Tigard, Oregon

Productivity Petition

I'd like to echo some of the comments voiced by others in reference to the Amiga as a business production machine. I use my A600 (with 6MB of RAM and a hard drive) for my part-time mail order and network marketing business. I've always been totally satisfied with my Amiga as a productivity machine and I'd also like to see more articles on desktop publishing, word processing, and so forth. Some of us never use our Amiga for games but strictly as a business machine, and I think our loyalty should be somewhat rewarded. All of my customers that I do laser-typesetting for (using ProPage 4.1 and Final Copy II) are repeat customers thanks to the excellent output provided by the aforementioned programs and to the ease with which I was able to learn them. I'd like to see more software companies get involved in writing more productivity software. I love my Amiga and will never go to a PC.

Chris Williams
Neptune City, New Jersey

That's Entertainment

I am the owner of an A500 and most recently an A1200. I am basically a casual computer enthusiast. I use my Amiga for a little art and animation, but for the most part—games! I subscribe to your magazine because I believe it is the best in the US. However, it pales in comparison to my favorite magazine *Amiga Format*. I am aware that you do not have near the circulation of the European mags (nor the user base), but I contend that if you improved your mag, your circulation would increase. Cover disks alone would really get some attention.

Craig Allen
Findlay, Ohio

> *Your magazine is one of the last to fully support the Amiga. Please do not isolate your readers by getting too specialized.*

Paper or Plastic?

AmigaWorld can show its dedication to Amiga CD-ROM development by starting a new Amiga magazine called "AmigaWorld CD." AmigaWorld CD can add "real" multimedia information, like clip-art, pictures, animations, soundtracks (OctaMEDs and MODs), and maybe even video! Lots of user input could make for an awesome magazine. *AmigaWorld* could place the latest PD disks onto the CD-ROM. Software and hardware developers could give a complete demo of the software [reviewed] and 3-D pictures of the hardware. [Readers] could make a better decision before buying. CD-ROMs are more convenient for me...and my old *AmigaWorld* magazines are getting worn-out, torn, and lost. I would really like *AmigaWorld* to consider putting out a magazine on CD-ROM.

Joel Knight
Nanaimo, Canada

AGA Wish List

I am like many of your letter writers who still have an A500, expanded with memory, hard disk, and accelerator. So why haven't I upgraded to a new A4000 or A1200? First, I am not willing to spend more than $2000 for an A4000 and monitor just for the home. Second, the A1200, while well priced, really is not enough of a step forward for me to jump and it is missing things I really want. So what would make people like me buy?...a PCMCIA slot, a high-density floppy disk drive, a CD-ROM drive, a real encasement (à la the A1000) with a separate keyboard...and finally, a slot for a network card, a second parallel port, or even an internal modem. And if at all possible, a reset button (and an on-off switch) on the case and a battery-backed clock for the main system.

Alan Goldstein
Franklin, Massachusetts

We appreciate your views. If you have something to share, drop us a line! Write to The Last Word, c/o ***AmigaWorld,*** *80 Elm St., Peterborough, NH 03458.* ■

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